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ments; these reports are circulated in the Admiralty and are minuted by the officers to whom they are referred; they may thus become the basis, or starting-point, of memoranda upon policy by high officials of the Admiralty staff. Every one of these documents must be scrutinised and compared with telegrams of the same date; and while much of their contents will prove immaterial, a considerable proportion will be found to be of the first importance: papers, for example, which record the views and decisions of the High Naval Command.

Thirdly, there are the records of the Committee of Imperial Defence. These records include the minutes of proceedings of the War Cabinet and the War Committee, and all papers and memoranda presented to them by departments of State. It would be superfluous to draw attention to the importance of these documents; they record the Government's most important decisions upon the higher direction of war. Fourthly, there are the records kept when Allied ministers met in conference; the records of the Supreme War Council and the records of the inter-allied Naval Council. When we pass from papers recording information and design to those relating to execution we come to another class of documents. Every operation carried out at sea is recorded in three ways. First, the officer in command issues his orders to the ships concerned, describing the operation as he conceives it: the actual progress of the action is then recorded in the logs of the ships engaged—the Signal Logs in particular should enable the historian to trace all the orders issued and received during the operation. Thirdly, there will be the reports sent in afterwards by the captains and squadron commanders; and the despatches: these become Admiralty papers and have already been enumerated above.

In addition, there are records, such as the battle orders to the Fleet and its various squadrons, which form a complete register of the origin and development of the tactical principles followed by our fleet commanders during the war. Finally, there are the local records kept by the commanding officers of every base and shore station. These documents are almost as numerous and bulky as the records kept at Whitehall. For example, a collection known as the "Grand Fleet Pack" contains 105,000 pages of typed and printed matter.

Of these local records some are duplicates of those kept at the Admiralty, but it is only by examining them as a whole that the daily succession of operations undertaken from any particular base can be seen in a true perspective.

The problem is now beginning to define itself. It appears plainly that the mass of documentary evidence to be handled in this modern history is far larger than that at the disposal of any writer who has undertaken such a work in the past. This point may be illustrated by a comparison of the sources used for the *Decline and Fall of the Roman Empire*, and the documents on which a part of the *Naval Operations* was based. Gibbon and Sir Julian Corbett each took six years to produce their first two volumes. The authorities read by Gibbon were the work of fourteen classical writers and amounted to 10,500 pages of print. On the other hand, for the Dardanelles Campaign, which occupied only one-third of his two volumes, Sir Julian had to deal with twenty-three folio volumes of naval documents, containing 19,600 typed pages. This means that whereas the one had to study the considered and well-ordered work of his predecessors at a moderate and even leisurely rate, the other, the modern historian, had to analyse, compare, and digest a mass of raw material perhaps five times greater, while at the same time constructing the historical perspective—the perspective of an inundation, and not, as in the older case, of a river flowing in the familiar well-mapped channel of Time.

It became clear, then, at an early stage of the war, that although the History must be the task of one writer, conceived and finally shaped by a single mind, it could not—if it were to be produced in the time allowed by the span of human life—be literally the work of one man. It must be the final outcome of many skilled contributions, and the method on which the contributors were to work must be one scientifically adapted to the nature of the material.

This method deserves explanation, for it could hardly be imagined. First comes the collecting and arranging of the original documents. The telegrams sent and received by the Admiralty were, it is true, already collected together in the departmental records, but this collection is not in a shape suitable for historical study. The telegrams have to be

regrouped into geographical divisions, corresponding roughly to the several theatres of the naval war. When this has been done, skilled assistants scrutinise the results, theatre by theatre, and make an abstract of those which are most important. This gives a provisional outline of facts, which must be elaborated. The elaboration is done mainly by means of the docketed papers, which have in the meantime been searched for in the Admiralty register, taken over to the Historical Section, and there rearranged into geographical divisions and special subjects, to correspond with the arrangement of the telegrams. The skilled assistants now compare the information obtained from these two sources: gaps and misfits are detected and a search is instituted for further papers. These may either have been retained by some branch of the Admiralty, or they may have had a special origin and never have been recorded in the Central Registry. The search for them needs special qualities and untiring energy. When the outline has been tested and amended, and when the supplementary process of search is complete, the assistants are at last in a position to make out a provisional narrative of events, which is to follow the lines and divisions of the volume in hand, as determined by the historian. His work may best be described as architectural; but it has two difficulties which are not experienced by an architect. First, there is the necessity of designing, not once for all, but by a continual series of conceptions and adaptations: and secondly, there will be from time to time the necessity of investigating subjects which are not capable of simple chronological treatment. These special subjects generally relate to technical questions of policy, strategy or tactics: they must be introduced in their natural place, but the main narrative must not be allowed to become disjointed or confusing. In the case of a war carried on in many simultaneous but widely separated campaigns, it may be imagined that the historian is here face to face with something like an impossibility.

From another quarter comes a difficulty almost equally formidable. It has for some time past been generally held, and especially among military authorities, that the writing of history should be, as nearly as possible, contemporary with the events which it records and judges. But the obvious

advantage of living testimony is offset by serious disadvantages. Siborne's inquiry did not result in a final and coherent account of Waterloo. In the Trafalgar controversy, which broke out nearly forty years after the battle, and again in the year of the centenary, regrets were often expressed that no authoritative attempt had been made to settle the question at issue during the time when it was still possible to hear and examine the evidence of those who took part in the action. These regrets were needless—the documents were sufficient, and they proved more convincing, when properly examined, than the varying accounts of a number of eye-witnesses would in all probability have been. It was not realised that every officer present at any military operation has his own distinct point of view, both in the physical and the intellectual sense. In the case of an action on a large scale there will always be some conflict of evidence, and in a long war period there will be time for changes in every mental record. The picture in the keeping of memory is liable not only to fade but to be secretly revised by the unconscious self: after five or ten years it may remain apparently uninjured, but it is no longer the contemporary picture, for it has been repainted year after year by touches imperceptible to the artist as well as to those before whom he places it. This retouching may be a real refreshing and deepening of memory by a process of systematic reflection and by comparison with authentic documents: it may therefore add greatly to the value of the evidence. But in other cases the result may be disconcerting to the historian.

One thing is certain: history must not fail to take account of all the elements in the problem, among which is this fading and changing nature of memory. Another is the increased difficulty of tracing policy and estimating responsibility, caused by the vast extent and complexity of modern warfare. It may be said without exaggeration that when the naval forces of a belligerent nation include more than three thousand ships, and the naval campaign is conducted simultaneously in five or more theatres of war, by methods still unfamiliar in practice, the duties of the supreme naval adviser to the Cabinet must in a long war become too exacting a task for the powers of a single individual. It was the good fortune of England and her Allies that these duties

were in our time of danger entrusted to an officer of rare character and ability—the leader whom his subordinates were eager to follow, the commander who prepared for battle with infinite patience and foresight, the seaman who led the fleet at Jutland with decision, tenacity and skill. But even for the most devoted servant of his country there is a limit beyond which human nature cannot go. Not only is the physical strain, however gallantly borne, too severe and too continuous; the intellectual burden is so excessive as to clog and almost disable the finest human machinery.

The historian then must realise this new condition, that we reached in our last war the point where the individual is out of scale: no War Minister or First Lord of the past could ride in the whirlwinds or direct the storms of yesterday's campaign. The conflict was Titanic—it was not merely one between great military commanders, but literally one between whole nations and their national systems. This does not diminish the gratitude and admiration with which we recall the services of our supreme Commanders in the time of trial. They were able, devoted, and successful. But while the ability and devotion were their own, the success was partly theirs, partly the nation's—that is to say, it was achieved by means of our Constitution, the unique inherited system that enabled a Parliamentary Government to weather the military and diplomatic crisis, in which the autocratic system of our opponents broke down. The comparison forms one of the most interesting and far-reaching lessons of the war: it may be most readily studied by reading in immediate succession two chapters of the present history—first, chapter vii of Volume IV, recording the discussions and decisions which led our opponents to the adoption of unrestricted submarine war; and then the first chapter of Volume V, setting forth the cares and perplexities which delayed the general extension of the Convoy system by our own Admiralty. This comparison will show the groundlessness of our old misgiving, that Cabinet governments must be at a disadvantage when at war with a military autocracy. It proves that when the civilian element in a Constitution is in war-time overborne by the military, and has no appeal except to a Sovereign who is himself the supreme military and naval authority, there will be less breadth of view

in debate or discussion, and very much less certainty of wisdom in the policy decided upon : those whose profession is the application of sheer force will insist upon force as the infallible remedy, and will gain the support of the head of the State, who may be neither a great statesman nor a great commander. On the other hand, a Parliamentary Government will always be better equipped with thinking power, and more likely to prefer a policy consistent with the national welfare to one aiming at a merely military success. The advantage in our own hour of danger was greater still; for included among our reserves was the use of a power always latent but hitherto seldom or never brought effectively into action—the power of the civil Government, with which rests the ultimate control of all the national resources, to exercise influence not only in matters of policy and strategy, but even in the choice of technical measures at sea.

The historian's work, then, though made more difficult and at times delayed by the necessity for long conferences and correspondence, has been full of interest and not without hope of a useful result. If this has been attained in any degree, it is due to the collaboration which I have described : and I desire to offer my thanks not only to my immediate assistants—Lieut.-Commander A. C. Bell, Instructor-Captain O. T. Tuck and Miss Edith Keate—as well as to Lieut.-Colonel E. Y. Daniel and the entire Staff of the Naval Section, but also to Mr. C. Ernest Fayle and Captain A. C. Dewar, R.N., the head of the Historical Section of the Training and Staff Duties Division of the Admiralty. Lastly, I am much indebted to those distinguished officers who gave their time so unsparingly to the enlightenment of my views; and I have once more the pleasure to acknowledge with gratitude the full and courteous help of Admiral von Mantey and the German Admiralty.

HENRY NEWBOLT.

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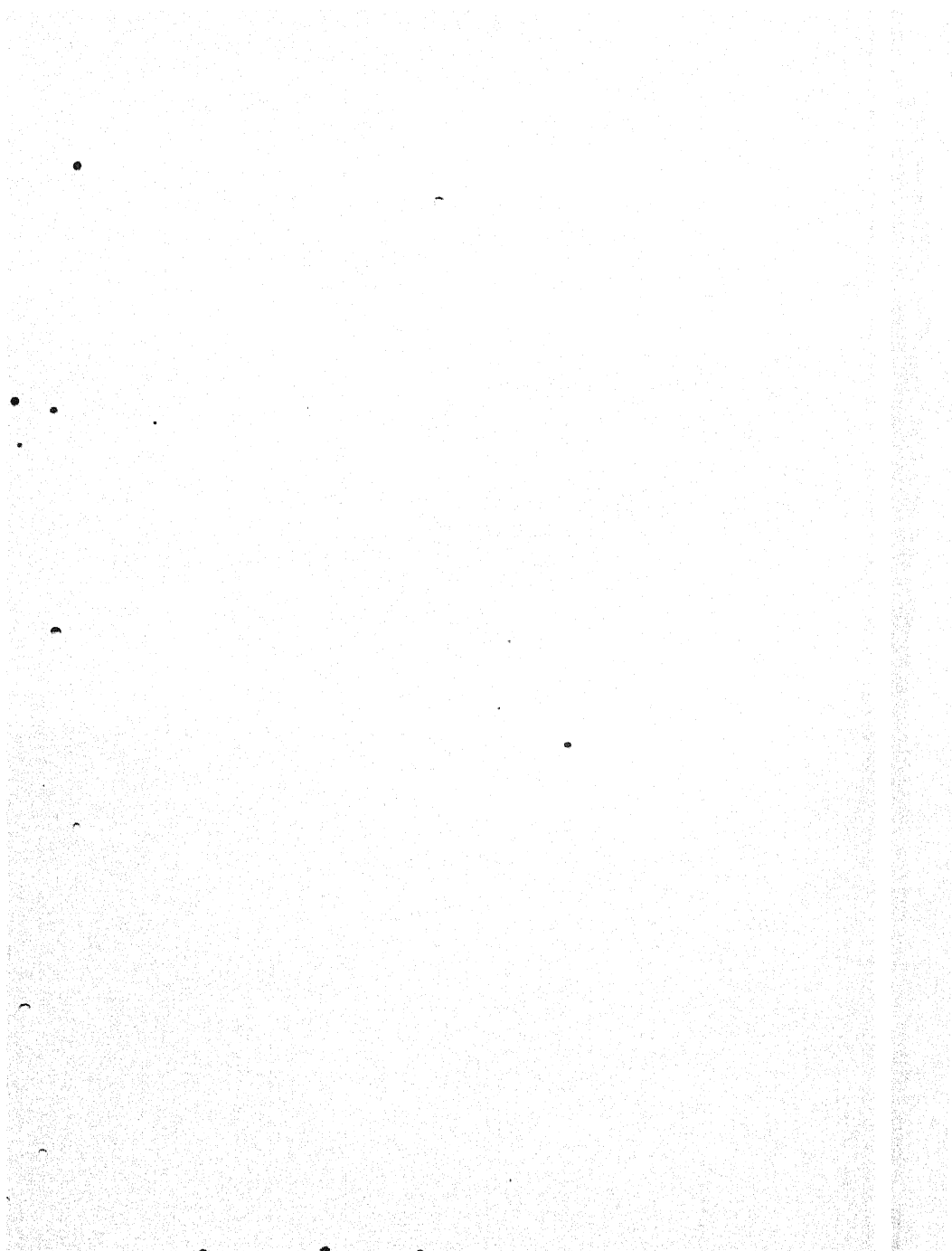
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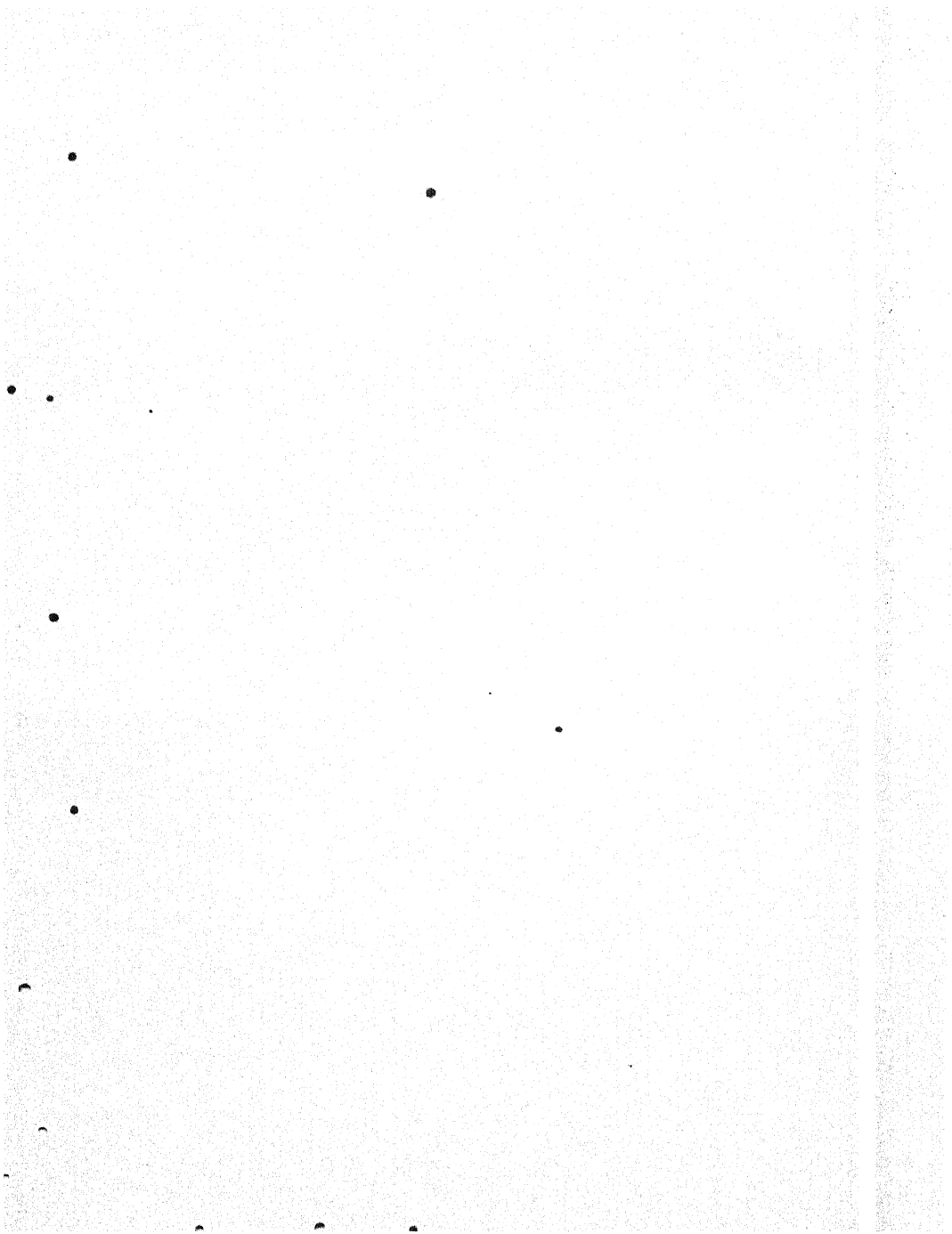
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CHAPTER I

THE SUBMARINE CAMPAIGN. APRIL TO AUGUST, 1917

1

The Beginnings of the Convoy System

THE onset of the German submarine offensive advanced to its furthest point in April 1917, and continued to cause us serious loss until October, in which month it may be said to have reached the period of slack water; in the following March the replacement of shipping began to exceed the losses, and the danger was visibly past. This was all that the nation knew, and all that it needed to know, at the time; but we are now able to take some account of the difficulties which harassed our leaders, political and naval, and to trace for future guidance the course of their deliberations and the origins of those decisions which ended by turning back the tide of war. As we have seen, the position of the two antagonists was, at the moment of crisis, entirely different; for the Germans, it was only necessary to postulate the same weakness in our defence, the same efficiency in their U-boat captains, and the same resulting total losses to ensure our exhaustion in the specified time. For us, the situation was less simple: our losses must, of course, be reduced or we could not survive; but the sure method of reduction had long been, and still remained, in doubt: no reliable system of hunting and destroying submarines had yet been developed; for saving tonnage, the Admiralty's choice seemed to lie between such expedients as controlled sailings and protected traffic lanes, on the one hand, and a comprehensive system of convoy on the other. This choice was one of great importance and involved the heaviest responsibility; for upon the issue hung, beyond doubt, as in a balance, the safety or the destruction of the Allied Powers.

Now that we can look back upon the whole course of the campaign, we can usefully study why it was that the choice should have been so long in doubt, and at the time there were certainly many, even among civilians, who were familiar with the idea of convoy, and inferred, from its success in

former wars,¹ that it was an obvious and infallible method whose value had been strangely overlooked. They could hardly be aware, as those in command were aware, of the many differences between a system used for the protection of merchant fleets which sailed perhaps twice a year, and could only be attacked on the surface, and a system for the protection, from under-water attack, of a world-wide and incessant flow of trade. But there was more than this difference to cause prolonged deliberation: the First Sea Lord and the Director of the Anti-Submarine Division had each a reason of his own for deferring the moment of a decision which was all-important.

One of the main difficulties with which the Admiralty had had to contend throughout the war was that the resources of the navy had been strained almost to breaking point in the endeavour to maintain overseas armies in so many theatres of war with an entirely inadequate number of small craft for the purpose. This applies particularly to destroyers, of which there had never been anything like a sufficient number. Admiral Jellicoe, therefore, was constantly held back by the reflection that the destroyer forces required for convoy work would have to be collected from commands both at home and abroad, from which applications for more destroyers, couched in most urgent terms, were constantly being received, and which in the First Sea Lord's own judgment were without doubt inadequately supplied. Admiral Duff's advice as Director of the Anti-Submarine Division supported Admiral Jellicoe's view, for he believed that unless the escorting ships bore a very large proportion to the number of ships in each convoy, the system would be an additional danger rather than a protection. He had also, as will appear presently, serious misgivings of a different kind, which were shared by other high officials. The War Cabinet on their part were also in an anxious position. It is true that in matters concerning active operations they were able to lean upon the advice of their highest naval and military commanders; but the ultimate responsibility for the conduct of the war as a whole

¹ Convoy, under the name of "wafting," was found necessary and effective as far back as the days of the *Great Harry*.

"And as for sending ships for the scouring of the narrow sea and wafting of the hoys that go to Calais, I pray God send you them in time; for it is too great a shame to lose the ships that be lost. And I trust ye will no more adventure neither the ordnance, artillery, victuals, nor men, till ye have wafers. Messemeth that ye might man some of the Spaniards that be at Sandwich, and make them wafers till other may come to you." (*Bishop Fox, Lord Privy Seal, to Wolsey, 1513.*)

Shakespeare uses the word in the same sense.

rested none the less upon themselves. Moreover, they would naturally feel their responsibility more as their own measure of experience increased; and they had by this time, in many conferences with their expert advisers, acquired some insight into the nature of the tactics by which their policy was being carried out. It was, therefore, only to be expected that they should, in a grave crisis, try their own powers in the surveying and re-surveying of a problem for which no solution had yet been found and upon which the expert decision was more and more anxiously awaited. Having regard to the serious effect upon the maintenance of our war effort of the continued and increasing losses of merchant ships from submarine attack, it was unquestionably the War Cabinet's duty to satisfy themselves by any means within their power not only that the measures adopted for the protection of trade routes were being carried out with the utmost vigour and efficiency, but also that the system was the best possible and that no better method was being neglected. The situation thus became one not only of supreme moment but of permanent historical interest. It was to be dealt with under a system of long development, a vital part of the national defence; and since the success or failure of this system must affect the future of our constitution, a description of its working under the greatest strain ever put upon it should be a source of instruction and of consequence for our successors.

On October 30, 1916, Sir John Jellicoe, then Commander-in-Chief of the Grand Fleet, had written a letter to the Prime Minister expressing anxiety with regard to the danger to the Allied cause from submarine attacks on merchant ships, which with notable prescience he anticipated would increase in the following spring. At Mr. Asquith's request Sir John Jellicoe had thereupon come to London, and attended a meeting of the War Committee on November 2. Admiral Sir Henry Jackson, the First Sea Lord, and Vice-Admiral Sir H. F. Oliver, the Chief of the War Staff at the Admiralty, were also present. Among other subjects the question of a possible convoy system was discussed. Mr. Lloyd George opened by asking Sir John Jellicoe if he had any plan against the German submarines working outside. Sir John Jellicoe said that he had not. They had only armed merchant ships, and these could not act offensively because they did not see the submarines. He suggested having floating intelligence centres to direct the routes of shipping, if found needful. He did not approve of convoys, as they offered too big a target.

Mr. Bonar Law then asked if they could not use a system of ships protected by a convoy of warships. Sir Henry

Oliver replied that they did it in the Mediterranean, so did the French and the Italians; but it did not do to send more than one ship at a time under escort. The French tried more, and lost two or three of their ships.

Mr. Lloyd George then suggested a dozen ships being convoyed by three ships of war. Sir John Jellicoe said in reply that they would never be able to keep merchant ships sufficiently together to enable a few destroyers to screen them. It was different with warships, which they could keep in a locked-up formation. Mr. Runciman added that, looking at the principle of convoy from the point of view of tonnage, it was most wasteful. There was no advantage in speed, as a convoy must move at a pace regulated by the slowest ship.

If such opinions were intended to be decisive, it was obviously useless to discuss the question further. It was, however, probable that the view put forward by Sir John Jellicoe on this occasion was more the Admiralty's than his own. He was at this time commanding the Grand Fleet and had not studied the question of the protection of ocean trade, a subject with which the Admiralty representatives present must have been much more conversant than he. As Commander-in-Chief he was not immediately responsible for the defence of trade in the approach routes and the Channel: he would hardly be inclined to overrule the conclusions of those who for two years past had studied the daily reports on attacks, chases and submarine engagements in the zones where the campaign against our trade was fiercest and most continuous. It was indeed clear that he did not feel himself called upon at this moment to give a definite and firm decision upon so complicated a question as that of trade defence. In the memorandum which he presented to the Government and the Admiralty, a few days before the Conference assembled, he had been careful to state that he did not wish, or intend, to make concrete proposals. The plan that he had in mind was purely administrative: to create a division, or department, of the Admiralty which should subject suggestions and all existing methods to a searching and scientific investigation.

The creation of this division and its proper constitution were, indeed, the principal questions under discussion in the purely naval conference which assembled at the Admiralty on the following day.¹ The officers present did, however,

¹ The Commander-in-Chief, Grand Fleet, the First, Second, Third and Fourth Sea Lords, the Chief of Staff, the Director of Operations, the Admiral in charge of Minesweeping, the Chairman of the Submarine Committee, Sir Arthur Wilson, Lieutenant-Commander Burney and Lieutenant-Commander Churchill attended.

make a brief survey of existing methods, and of any technical improvements in them which seemed possible at the moment. During this discussion, neither the possibility nor the advisability of introducing a convoy system was so much as touched upon, which shows that the Board of Admiralty did not, at that moment, consider it a feasible operation of war.

Again, when Sir John Jellicoe became First Sea Lord he was bound to give great weight and consideration to Admiralty opinion as he found it; and, since the November Conference, opinion had not changed at all. Indeed, it had hardened. The views of the Staff were set out in an official pamphlet issued in January 1917, in which it was stated, quite emphatically, that a convoy system was not a sound measure of trade defence: "Whenever possible, vessels should sail singly, escorted as considered necessary. The system of several ships sailing together in a convoy is not recommended in any area where submarine attack is a possibility. It is evident that the larger the number of ships forming the convoy, the greater is the chance of a submarine being enabled to attack successfully, the greater the difficulty of the escort in preventing such an attack. In the case of defensively armed merchant vessels, it is preferable that they should sail singly rather than that they should be formed into a convoy with several other vessels. A submarine could remain at a distance and fire her torpedo into the middle of a convoy with every chance of success. A defensively armed merchant vessel of good speed should rarely, if ever, be captured. If the submarine comes to the surface to overtake and attack with her gun, the merchant vessel's gun will nearly always make the submarine dive, in which case the preponderance of speed will allow of the merchant ship escaping."

The author or draughtsman of this pamphlet seems to have recorded the collective opinion of the Admiralty with some accuracy, for the minutes of those high officials who were more particularly concerned with the defence of trade are all expressive of the same, or nearly the same, view. The Director of the Trade Division had recently stated in a minute upon a paper circulated to him: "The question of convoy has frequently been gone into, but experience, so far, has not justified its existence outside the Mediterranean." The Director of the Operations Division suggested on the same papers that the question was one of expediency rather than of principle, and that if more destroyers were available they might usefully be employed on convoy duties in the Mediterranean. Admiral Duff, who was now the Director of the Anti-Submarine Division which had been constituted at Sir

control is not exercised in the same manner as the State control of railways, which operates through committees of liaison, assembled in distant board-rooms. It is an outward and visible control which affects the merchant seaman and his officers in their daily lives, which disturbs their most deep-seated and traditional habits. And above the masters and men, all the land staff of the great companies from clerk to manager come under the dominion of orders issued by the State and its officers. It was obvious that a measure of control so embracing and rigid could not be instituted by a mere decision in high places. Long consultation between the naval and shipping authorities must precede it. But when, as a first preliminary, Admiral Jellicoe assembled a conference of experienced ship captains at the Admiralty, and after describing the dangers of the position to them, asked them to give him their views upon convoy, they presented him with a list of difficulties which no seaman could treat lightly. If convoys were instituted, the merchant captains and their officers would have to manœuvre and keep station in regular formation. Those present stated unanimously that this would be quite impossible. Their best officers had long ago joined the naval forces; their ships were not fitted with the mechanical appliances necessary for making such nice adjustments in speed as were necessary for ships manœuvring in formation. Connections between bridges and engine-rooms were crude and primitive; even if they were improved, the engine-room controls were not of a kind which would enable the engineer officers to change the ships' speed by a few revolutions. They would much prefer to sail alone, and were of opinion that, in any case, not more than two ships could usefully sail in company.

In addition to all this, ships sailing in convoys would be exposed to special risks against which provision would have to be made beforehand. First, and most important, the institution of a convoy system would involve loss of carrying power, in that vessels would complete fewer round voyages in the year. Some estimate of the delays, some preparation for reducing them had obviously to be made beforehand; and this estimate, these preparations, could only be made by long consultation with port authorities upon such highly technical matters as "turn round" loading and unloading. Again, whatever additional protection might be given by armed escorts, it was obvious that ships in convoy would be very much exposed to attack during and immediately after the act of dispersal. The danger might conceivably be overcome by heavy concentrations of patrol craft at the points of dis-

persal; but this would involve considerable administrative preparation and consultation with the local senior officers. Finally, it could not be doubted that the enemy would open an intensive mining campaign against what might be called the strategic points of a convoy system. The ports at which convoys collected, the points at which they dispersed, the coastal routes along which they would move, all would henceforward be mined with energy and determination.

But the dominant difficulty was one against which no provision could be made, for it was contingent upon the politics of a great neutral country. According to the strict and literal law of nations, a belligerent Power may assemble a convoy in a neutral port. But statesmen, who are not bound to treat these matters as mere questions of law, may refuse to allow their ports to be used for such a purpose—on the ground that it will attract foreign combatants to their national waters. Even though they do not forbid it outright, they can raise such administrative difficulties that the work of collecting and routing a convoy from a neutral harbour becomes almost impossible. The attitude which the American Government would adopt seemed doubtful. Even when they had broken off diplomatic relations with Germany, they were still neutral. The President on February 3 announced that he hoped to remain so. Their active or passive opposition might make the whole system unworkable.

The position at the end of January was, therefore, that certain influential members of the Admiralty Staff strongly doubted whether a convoy system would materially reduce merchant shipping losses; and that Admiral Jellicoe was withholding a final decision until the known difficulties and obstacles had been further examined, and until the American attitude became clearer.

But the time available for examining difficulties was rapidly running out. On February 1, 1917, in accordance with the German Emperor's command, the unrestricted U-boat campaign began.

The losses—already alarming—rose sharply in the first week of the new campaign; and Mr. Lloyd George saw at once that the country and the alliance would shortly be in danger. His duty was not doubtful. As Prime Minister of Great Britain he was responsible for the conduct of the war; he must, therefore, at once examine all the plans of the naval authorities and convince himself and his colleagues that the best method of thwarting the danger had been adopted. Mr. Lloyd George was not persuaded that the problem at issue

was intrinsically different from any question of major strategy. He believed that it could be stripped of its load of supplementary questions—which nobody but an expert can examine—and that, when reduced to its essentials, it would be found to be a plain question which a man of knowledge and good judgment can resolve. On February 13, therefore, he conferred informally with Sir Edward Carson, Admiral Jellicoe and Admiral Duff. The line of thought on which he wished to test naval opinion is set forth in a paper containing some suggestions for anti-submarine warfare, which had been prepared for him by Sir Maurice Hankey two days before, and was now read to the members of the conference as a basis for discussion. The following paragraphs are here given at length, as the clearest and most authentic account of the reasoning which enabled the War Cabinet to sustain their constitutional part in the conduct of the war; not as technical experts, but as responsible leaders bringing in their powers at the decisive moment to carry forward and support their high executive officers.

“The situation created by the enemy’s adoption of unrestricted submarine warfare threatens to become so serious that the Admiralty will surely not resent the suggestions of an outsider, who, though well placed as an onlooker, can lay no claim to be a practical expert in combating this form of attack. The ideas in this Memorandum, therefore, are put forward in no critical or aggressive spirit, but in the hope that some part of them at least may contribute towards the constructive anti-submarine policy of the Admiralty.

“The general scheme submitted below entails ultimately an entire reorganisation of the Admiralty’s present scheme of anti-submarine warfare, although it might, in the first instance, be adopted experimentally on a smaller scale. It involves the substitution of a system of scientifically organised convoys, and the concentration on this service of the whole of the anti-submarine craft allotted to the protection of our trade routes, excepting only those vessels devoted to the anti-submarine service of our main fleets. It further involves the concentration on to the convoy system of every means of anti-submarine warfare—the gun, the submarine, the net, the depth charge, the mortar, the hydrophone, and wireless telegraphy. It aims at the effective utilisation of the slower as well as of the faster anti-submarine craft for the convoy system, and it contemplates ultimately the provision of special salvage and life-saving craft and plant to accompany the convoys. The Memorandum also contains suggestions for investigations of a technical character for combating the submarine, which may or may not be entirely new.

Objections to the Convoy System

"The objections to the convoy system have more than once been developed before the late War Committee and the present War Cabinet, and unquestionably the bulk of the best naval opinion has up to now been against it.

"It has been pointed out that the convoy provides an immense target for the enemy's attack. Unless one fast escort is provided for each ship the enemy merely selects a vessel that is unescorted and sinks it at sight. It would not be possible to provide fast craft to escort a mass of merchant ships. Moreover, the speeds of the ships vary, and the convoy must go rather slower than the speed of the slowest ship in order to leave a margin in hand for station-keeping. Hence, the faster vessel loses the advantage she would otherwise obtain from her speed. Moreover, the merchant service is not trained to keep station, which is only achieved in the navy itself by dint of long practice and experience; hence, the ships in the convoy would constantly straggle, and there would be many collisions. An objection of a different order is that the sudden influx into our ports of a mass of shipping would lead to congestion. In the same order of ideas it is contended that the system involves so much loss of time and waste of effort that it cannot be contemplated.

"These are formidable objections. In the earlier part of the war the writer recognised them to be crucial. Circumstances, however, have changed, and the question arises for serious consideration whether some of the objections have not lost a good deal of force, while others are outweighed by the comparative failure of the present system, and whether means are not at hand for overcoming yet a third group of these objections.

"For example, the great curtailment in our trade which must be expected to follow the adoption of a drastic restriction of imports will render far less cogent the argument that our ports will become congested, and the organisation of the special battalions for alleviating congestion in our ports provides a mobile force to supplement the labour at any great port where a large convoy has arrived. The argument that time is wasted has also lost much of its force, as, under the existing system, the adoption of devious routes, and the frequent closing of our ports, have already involved very great delay. The adoption of the principle of nationalisation of shipping and shipping personnel will enable the Admiralty to enforce the necessary discipline on merchant skippers, and to 'dilute' the merchant service with officers to train them in

keeping station. In this war far more complicated technical matters than station-keeping have been taught on a gigantic scale to less responsive material than the merchant seamen, both in military and munitions matters. The objection based on speed can be surmounted partly by excluding the really fast vessels from the convoy system, and partly by a rough grouping of vessels of approximately equal speed. Moreover, this objection is compensated by the fact that the more valuable vessels and cargoes can be placed in the safer portion of the convoy surrounded and screened by less valuable ships. The difficulty of providing large enough escorts can probably only be surmounted by careful organisation; by reorganising the existing distribution of anti-submarine craft; by grouping these vessels according to their speeds, sea-going qualities, armament, etc.; and by devoting the greater part to escort duty, allotting them according to their suitability, to long-distance convoys, short sea-voyage convoys, or coastal convoys.

The Objections to the Existing System

"Before describing in detail the new proposals for convoys, some remarks on the weaknesses of the existing system for the protection of mercantile traffic may be permissible. It is desired to emphasise that these are made in no critical or hostile spirit. They were probably the best possible measures under earlier conditions, and they are criticised from the standpoint of a new situation differing markedly from that which they were originally designed to meet.

"The writer has encountered some difficulty owing to the fact that he is not intimately acquainted with the existing system. As he understands it, the coastwise area surrounding these islands is divided into a number of sectors. To each sector there is allotted a certain number of destroyers, patrol vessels, 'Q' ships, and small craft for mine-sweeping and anti-submarine services, each sector being under the command of a special flag officer. As a rule, these small craft do not operate outside their own sector, though a redistribution of them is made from time to time by the Admiralty. The operations in these sectors are co-ordinated by a special Department of the Admiralty, but there is no Inspector-General, and it would be difficult to appoint one without, to some extent, weakening the authority and responsibility and hampering the initiative of the Naval Commanders-in-Chief on the coast of Ireland, Devonport, Portsmouth, Dover, the Nore, and Rosyth, in whose commands the several sectors are situated. The writer is ignorant as to whether orders to the

sectors are transmitted direct from the Admiralty or through the Naval Commander-in-Chief.

"Some corresponding arrangement is made by the French Admiralty along the French coast.

"Outside the coastal areas the protection of the trade routes is understood to be under the command of the Senior Naval Officers on the various stations. The special forces under their control for anti-submarine work on the high seas are understood to be confined practically to the 'Q' sloops, which are, in fact, decoy vessels of an ingenious type, but they are few in number, and for their success depend mainly on meeting the submarine on the surface. In the narrow waters of the Mediterranean there are considerable numbers of destroyers (about to be reinforced by two Japanese flotillas) and other small craft.

"Even if the number of small anti-submarine craft (understood to amount to 3000 or 4000 vessels) is so great that a certain degree of control can be exercised in coastal waters, it is clear that the deep-sea routes accessible to the modern sea-going submarine are so extensive that they can be only very thinly patrolled, and the protection afforded, except at a few obligatory points of passage, such as the St. George's Channel or the Straits of Gibraltar, is little more than nominal. Hence, the Admiralty has adopted the expedient of prescribing the routes to be followed by British and, in some instances, by neutral ships, and these routes, to which the patrols are confined, are frequently changed in order to puzzle the enemy.

"It is obvious that this system has many weaknesses. If the enemy has a properly organised system of reconnaissance he will soon rediscover the changed route, at the point where it emerges from the unavoidable points of convergence, or at the terminal of the trade route. Placing himself on the trade route he has merely to await his prey, possibly lying submerged and trusting to the hydrophone to give him warning of his victim's approach. If he confines himself to the use of the torpedo the risks he runs are infinitesimal. He attacks in most cases without having to fight at all. The only protection that the merchant vessel has is the gun (if she is so fortunate as to have one), her speed, and evasion by steering a zigzag course. In spite of these palliatives the attack of trade routes is a 'soft thing' for the submarine with a constant stream of isolated merchant ships, almost devoid of offensive power, to choose from.

"How under this system we are ever to avoid losses limited only by the number of the enemy's sea-going sub-

marines, and his output of torpedoes, it is difficult to see. The true strategical principal would, of course, be to intercept the enemy near his exits from his ports, and from the very first days of the war the writer has been an ardent and unceasing advocate of the development of an unrestricted policy of mines, which are 'the trench of the sea.' In the early part of the war, however, the Admiralty was utterly unsympathetic to submarine mining, with the result that, in the middle of the third year of the war, our provision for minelaying is absolutely inadequate to the needs of the situation.

The Advantages of the Convoy System

"Over the system described above the convoy system, if practicable, appears to offer certain very distinct advantages.

"The enemy can never know the day nor the hour when the convoy will come, nor the route which it will take. The most dangerous and contracted passages can be passed at night. Routes can be selected as far as possible in water so deep that submarine mines cannot be laid. The convoy can be preceded by minesweepers or by vessels fitted with paravanes. The most valuable ships can be placed in the safest part of the convoy. Neutrals, and other unarmed vessels, can be placed under the protection of armed vessels. The enemy submarines, instead of attacking a defenceless prey, will know that a fight is inevitable in which he may be worsted. All hope of successful surface attack would have to be dismissed at once.

"The adoption of the convoy system would appear to offer great opportunities for mutual support by the merchant vessels themselves, apart from the defence provided by their escorts. Instead of meeting one small gun on board one ship the enemy might be under fire from, say, ten guns, distributed among twenty ships. Each merchant ship might have depth charges, and explosive charges in addition might be towed between pairs of ships, to be exploded electrically. One or two ships with paravanes might save a line of a dozen ships from the mine danger. Special salvage ships (alluded to later) might accompany the convoy to save those ships which were mined or torpedoed without sinking immediately, and in any event to save the crews.

"Perhaps the best commentary on the convoy system is that it is invariably adopted for our main fleet, and for our transports."

Such were the suggestions which Mr. Lloyd George, without committing himself to them, offered to the Admiralty

representatives at this informal meeting. But this able paper, which laid the great issues of the problem so clearly before the Prime Minister, did not bring him and his naval advisers any closer together. To the Admirals the paper read merely like an abstract statement of strategical principle. They were quite prepared to admit that the principles enunciated in Sir Maurice's paper were sound; they were considering not the principle itself but its practical consequences in the disposition of our naval forces. In any case the Prime Minister did not press them to give a considered reply; for soon after the meeting he was entirely occupied with questions arising out of the great offensive which General Nivelle was about to conduct.

For the next month the subject of convoy was not again brought up in the War Cabinet, and the First Sea Lord's reports on the submarine campaign, which he made at almost every meeting, were little but reports upon actions between single ships and enemy submarines. His reply to questions addressed to him by the War Cabinet during March was that the matter was being considered. The situation was, however, changing; it was during this month of March that the Admiralty became cognisant of certain new facts and figures which helped to clear away some of the doubts as to the efficacy of a convoy system, though they could do nothing to remove the heavy mass of obstacles and difficulties which was still embarrassing Admiral Jellicoe.

During February vessels engaged in the coal trade to Northern France had been organised into rough and tentative convoys,¹ called "controlled sailings." By the end of March, therefore, the Admiralty had before them six weeks' evidence of the results of the system. It was not as yet possible to say that this experiment justified the introduction of a regular system of ocean convoy; but the reduction of losses in a trade which had hitherto been particularly afflicted was decidedly impressive, and it contributed in a marked degree to decisions made later on. In the meantime the rising list of losses in the approach routes gave clear warning to all concerned that the present position could not be much longer maintained.

On April 3 a Conference assembled at Longhope; its terms of reference were strictly defined.² The officers present were to consider how the heavy losses recently suffered by ships engaged in the Scandinavian trade could be reduced. They reported unanimously that the Scandinavian trade ought to be placed in convoy. The local senior officers, to

¹ See post, p. 27.

² See Vol. IV., p. 383.

whom the report was submitted, were not by any means so unanimous. Only one of them openly challenged the recommendations, but several of the most experienced officers read them with considerable misgivings. The opinion that the escort would have to be numerically equal, or nearly so, to the vessels escorted was still strongly held; for Admiral Pears, at Invergordon, recommended that not more than four or five merchant ships should be escorted at a time. Admiral Hamilton, the Commander-in-Chief at Rosyth, supported the recommendations, but added that the arrangements could not be kept secret, and that sooner or later the enemy would raid the convoy in strength. Admiral Stuart Nicholson, at Grimsby, however, stated that he could not endorse the Conference's recommendations. "Personally," he wrote, "I am in favour of individual escort by single trawler of the more valuable ships, the rest proceeding independently, and destroyers being used to patrol the trade route." Admiral Stuart Nicholson repeated Admiral Hamilton's warning about raids in almost identical language. Admiral Beatty expressed no disagreement with the Conference's findings in his covering letter, and he drew attention to the importance of the question under discussion.

Whilst these officers were drafting their endorsements or reservations to the findings of the Longhope Conference, the American President had assembled Congress, and had declared war against Germany (April 6). In eloquent and impressive words he proclaimed that the United States would wage war by land and by sea with all the energy of which they were capable, and with all the means in their power.

The papers on the Conference at Longhope reached the Admiralty on April 11, and were at once examined by all the officers concerned. The subject-matter of the papers was relevant only to the proposal under review: the advisability of placing trade under convoy between Great Britain and Scandinavia. Admiral Duff was prepared to accept the recommendations of the Longhope Conference for the time being on account of certain peculiarities in the Scandinavian trade; for he wrote, in one part of his minute: "It is realised that in at any rate two respects the convoy system is particularly applicable to the Scandinavian trade; one is the shortness of the night during the summer months, and the other, the vessels using this route being very much of the same speed." Admiral Jellicoe endorsed the findings of the Conference and gave orders that the "system was to be tried, and a report sent fortnightly on its working." In the meantime our losses continued: they were too heavy to be endured

in silence. We have already noted¹ that on April 23, when the War Cabinet had before them Admiral Jellicoe's exhaustive survey of the measures in force for combating submarine attack, the convoy system was still under consideration at the Admiralty, and therefore was not submitted to the Cabinet as a possible remedy. The Prime Minister did, however, raise the question on that occasion and quoted the views of Admirals Beatty and Sims. Admiral Jellicoe replied that the matter was under consideration; one of the chief obstacles to adopting such a scheme was the shortage of torpedo boat destroyers. There was some prospect of American destroyers being sent to assist us, and six had already been ordered to leave for this country. A much larger number would, however, be necessary before any scheme of convoy could be introduced. The trial of the convoy system by the Commander-in-Chief, Grand Fleet, had not been altogether successful.² Two vessels in separate convoys had already been torpedoed and sunk.

Some members of the War Cabinet seem to have felt, and Lord Curzon pointed out, that without a more general survey than had hitherto been presented to them they could not be in a position to grasp and review the situation. The War Cabinet therefore asked for further figures as to the Admiralty's estimate of future losses, the present and prospective food situation, and the absolute minimum of imports essential to the Allied armies; and they adjourned the discussion until later in the afternoon.

On resuming, attention was particularly directed to the following points: (i) the increasingly heavy losses of merchant ships, (ii) the necessity for the provision of patrol vessels, (iii) the failure of our mining policy, (iv) the necessity of building up a reserve of food, (v) a proposal from the First Sea Lord for the building of mammoth unsinkable ships to ensure our obtaining supplies during the latter part of 1918.³ From this it seems clear that ocean convoy was still not one of the remedial measures suggested: though it was, as the First Sea Lord has stated, still under consideration, and he has added later that on April 23 it was "very nearly" put forward, "as it was obviously close to a settlement."

For the final reconsideration of the problem the Admiralty were now provided with fresh light upon one of the most important of their data—the difficulty of providing the

¹ See Vol. IV., p. 379.

² He was referring to the Scandinavian convoy. See Vol. IV., pp. 382-4.

³ The original proposal had been made by the Director of Naval Construction. It was placed before the War Cabinet by the First Sea Lord.

destroyers required. It was clear that a system of ocean convoy must involve the employment of considerable forces in escort work; and in the danger zone at any rate real security could only be guaranteed by destroyers. Yet at no time during 1916 had the destroyer force available for all purposes been more than barely adequate to the demands upon it. How then was it possible to meet a demand largely increased by the necessities of a system of convoy?

This question had for some time past been exercising the ability and industry of the Anti-Submarine Division, where certain officers had taken in hand the verification of some of the facts from which the discouraging conclusion had seemed to be inevitably deduced. After long investigation and consultation with the Ministry of Shipping they succeeded in revising the table of relevant facts with striking result. They proved, in effect, that the supposed impossibility of providing sufficient escort was deduced from a miscalculation of the number of voyages requiring protection in the ocean trades. The mistake had arisen in this way. With a view to discouraging the enemy, the figures showing the number of arrivals and departures of ships in the weekly statement published by the Admiralty had been made to include the repeated calls of all coasters and short sea traders of 300 tons and upwards; and by this method the figures had been swollen to about 2500 voyages a week each way. But inasmuch as the average number of voyages made weekly by British ocean-going ships (1600 tons gross and upwards) had in time of peace been under 200¹ each way, a careful investigator well acquainted with shipping was bound to find that the published return had no real significance as regards the essential trades. The Ministry of Shipping had produced figures showing the actual arrivals and departures in the ocean trades to be between 120 and 140 each week. This revision of the figures, carried out mainly by Commander R. G. Henderson, was now in Admiral Duff's hands, and no doubt assisted in some degree towards the approaching settlement.

The position with regard to destroyers was this. Seventy or more would be required as escorts if a really comprehensive convoy system were introduced. There were at the moment, some 279 destroyers in Home waters, and of these, between twenty and thirty could be immediately employed in convoy duties. If it were decided to institute a system, destroyer assets would therefore be about forty units short of destroyer liabilities. But it was agreed by everybody that the Atlantic

¹ Salter, *Allied Shipping Control*, p. 123.

trade could only be grouped into convoys and placed under escort by degrees, and that some months would go by before a complete and embracing convoy system could be instituted. How the deficit could be made good was still uncertain. There was, however, a promise of American assistance, and the British shipyards would probably deliver about fifteen new boats by the end of July. All that could be said, therefore, was that the immediate call could just be met, and that if every available unit were allocated ruthlessly to the convoy organisation, as it developed and expanded, then it was just conceivable that the necessary number would be collected. If, however, the provisional estimate of the destroyers required proved to be too low, the future was dark indeed.

The time was now come, in the opinion of the Prime Minister and his colleagues, when a closer examination of all possible methods was necessary, even if it involved a critical survey of the naval administration itself. On April 25 the War Cabinet once more discussed the situation and decided that the Prime Minister should visit the Admiralty, to investigate all the means at present used in anti-submarine warfare, on the ground that recent inquiries had made it clear that there was not sufficient co-ordination in the present efforts to deal with the campaign.

But before he arrived, the decision, which both he and his Cabinet colleagues so ardently desired, had been taken. On April 26 Admiral Duff sent a paper to Admiral Jellicoe with the following minute: "It seems to me evident that the time has arrived when we must be ready to introduce a comprehensive scheme of convoy at any moment.

"The sudden and large increases of our daily losses in merchant ships, together with the experience we have gained of the unexpected immunity from successful submarine attack in the case of the French coal trade, afford sufficient reason for believing that we can accept the many disadvantages of large convoys with the certainty of a great reduction in our present losses.

"Further, the United States having come into the war eliminates some of the apparently insuperable difficulties to a comprehensive scheme of convoy.

"The number of vessels roughly estimated in the attached paper as the minimum necessary for escort work is large, but the necessity of further safeguarding our food supply is becoming vital.

"The attached paper is merely an outline proposal giving certain figures to enable a decision to be given as to whether the scheme is to be proceeded with and worked out in detail.

"The work will be heavy, and if approved, I suggest the

appointment of a Captain for the special purpose, in the first place to work out the scheme and afterwards to superintend its practical application."

The paper attached to this minute contained a detailed examination of the volume of trade to be escorted and of the cruisers and destroyers necessary for the purpose. The First Sea Lord approved the minute on the following day.

Seen in retrospect, Admiral Jellicoe's decision stands out clearly, even dramatically, as one of the most important of the war. The choice involved perhaps the heaviest responsibility ever faced by a naval chief; for it was the choice not merely of an alternative method of defence, but of a decisive tactical manœuvre in the greatest battle in history—the four-year battle for the use of sea transport, in which our whole mercantile fleet and all that depended on it was at stake. When once the decision was taken, the work, as we shall see, was put in hand with the greatest energy and ability. The splendid organisation for convoy work, which resulted from the labours of Admiral Duff, Paymaster-Captain Manisty, and others, has earned tribute from our late enemy, as well as admiration from our own people.

2

The Convoy System and American Naval Assistance

The decision of the Admiralty was very welcome to the War Cabinet. On April 30 the Prime Minister visited the Admiralty in pursuance of the decision of the War Cabinet a week before. He found that the Admiralty's reconsideration of the convoy proposal had had a decisive result, and he drew up the following minute of the discussion in which their new attitude was communicated to him.

"I was gratified to learn from Admiral Duff that he had completely altered his view in regard to the adoption of a system of convoy, and I gather that the First Sea Lord shares his views, at any rate to the extent of an experiment. Admiral Duff is not enamoured with the system, but a number of circumstances have combined to bring him to the view, which I believe most of my colleagues share, that, at any rate, an experiment in this direction should be made. One of these reasons is that now that the United States of America have entered the war, he thinks it should be possible to find escorts which were formerly impracticable. Another is that experience has shown that he cannot rely on merchant ships to find salvation from the submarine by zigzagging and

dousing their lights, and he therefore estimates these factors as a means of protection to a single ship lower than he formerly did. Moreover, as the result of an investigation in concert with a representative of the shipping controller, he finds that the number of ships for which convoy will have to be supplied is more manageable than he had thought. Further, the losses which he last reported to me on the subject were not, in his opinion, sufficient to justify the adoption of this experiment, which, he warned me, might involve a great disaster. Now, however, he calculates that he could afford to lose three ships out of every convoy without being worse off than at present, and he therefore thinks the experiment justifiable. . . .

"I much regret that some time must elapse before convoy can be in full working order, and I consider that the Admiralty ought to press on with the matter as rapidly as possible.

"As the views of the Admiralty are now in complete accord with the views of the War Cabinet on this question, and as convoys have just come into operation on some routes and are being organised on others, further comment is unnecessary. . . ."

Although Admiral Jellicoe had decided to adopt a policy which proved itself, when established and developed, to be the long-sought answer to the submarine menace, he was far from being satisfied that the War Cabinet and the Admiralty were now in complete accord on this question. A comprehensive convoy system could not be established by the mere signing of an order: the result was still a matter of expectation rather than of certainty: the enemy's attack was already organised and effective; even if all went well there must be an interval of continuing loss. The danger of the position had been deeply engraved upon his mind, and he felt as strongly as ever the necessity of impressing it with corresponding force upon the Prime Minister, whose attitude seemed to brush aside his profound anxiety with a ready optimism.

With this intention he had already prepared a memorandum which expressed his feeling in words of rare bluntness and of the utmost gravity. It is a document of great historical importance, and must be given here in full, because it is the only statement we possess, written with complete knowledge and the highest responsibility, of the one mortal danger which has ever threatened this country in war.

First Sea Lord to First Lord

"I feel it my duty to place before you my considered opinion that the time has arrived when it is necessary to

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bring home more fully to the Government the very serious nature of the naval position with which we are now confronted.

"I fear that the War Cabinet is not as yet fully impressed with the gravity of the situation. This may be due, in part at any rate, to want of sufficient emphasis in what I have said and written to its members, and on this assumption I must now invoke your aid, and that of the Board itself if necessary, to add force to my arguments and representations.

"As you may be aware, the only result of my efforts so far has been the appointment of Committees to investigate various features of the problem, such as the rate at which we can build ships to replace losses, the extent to which our shipping can be reduced without starving the country, etc., and I must point out with all the force at my command that this kind of administrative action does nothing to grapple with the vital difficulties of the situation.

"To begin with, all such estimates depend upon a forecast of our probable losses in mercantile shipping, and such forecasts are utterly useless. It is out of my own or anyone else's power to furnish figures with any approach to accuracy.

"The losses which we shall suffer depend upon such factors as the number of enemy submarines which are working, the skill with which they are disposed on our various trade routes, the number of torpedoes which they can carry, and the facilities possessed by the enemy for replacing those expended, the skill of the personnel, the sagacity of the officers of our own merchant ships, our luck in hitting off routes clear of submarines, our ability to intercept vessels which are on dangerous routes and to divert them when the danger becomes apparent, weather conditions, the number of vessels which we are able to maintain on patrol, the rate at which we can arm our merchant ships with guns and howitzers, the rate at which we can fit them with mine protection, the rate at which we can replace our mine-sweepers, the perfection of our minefields, and the rapidity with which the new pattern mine can be manufactured.

"Nearly the whole of these factors are problematical, and no sort of accurate estimate can be given; some depend largely on the industry of the workmen of this country and on how far we may enjoy freedom from strikes. All estimates of deliveries of any of the new devices under manufacture have been falsified owing to labour difficulties, and, generally speaking, it is quite impossible to foresee the date at which we may hope to increase the rate of destruction of the enemy submarines.

"All these inquiries and all this Committee work—though

valuable for certain purposes—falls very far short of the courageous and drastic action that should be applied by H.M. Government.

“For instance, I have urged time after time the absolute necessity that exists for reducing the number of lines of communication which the Navy is called upon to safeguard and for increasing the protection of those lines of communication which remain. So far the only result of my efforts has been increased calls upon the Navy without any sort of reduction of liabilities and with no appreciable increase of our resources. During the last three months, for example, we have been asked to import large numbers of native labourers from all parts of the world and, by the recent actions of the enemy, we are also called upon to escort all our hospital ships except those in far-distant waters.

“The real fact of the matter is this. We are carrying on the war at the present time as if we had the absolute command of the sea, whereas we have not such command or anything approaching it. It is quite true that we are masters of the situation so far as surface ships are concerned, but it must be realised—and realised at once—that this will be quite useless if the enemy's submarines paralyse, as they do now, our lines of communication.

“History has shown from time to time the fatal results of basing naval and military strategy on an insecure line of communications. Disaster is certain to follow, *and our present policy is heading straight for disaster*. It is useless and dangerous in the highest degree to ignore that fact.

“I must, therefore, advise that the Government should so shape its policy as to recognise that we have neither the undisputed command of the sea nor even a reasonable measure of that command. If we do not recognise this it is my firm conviction that we shall lose the war by the starvation of our people and the paralysing of our Allies by failing to supply them with coal and other essentials.

“The policy of the war must, of course, be decided by the Government. It is merely my duty to advise whether the Navy is in a position to give effect to that policy, and I have no desire to trespass beyond my proper functions. I feel, however, that, as I am addressing this serious memorandum to you in the hope that through you its contents may have some influence on the War Cabinet, I ought to indicate several very important matters which, in my judgment, demand immediate attention.

“I feel certain that the Navy will indubitably fail in the near future to satisfy the demands made upon it by the present

policy of H.M. Government unless—(a) we at once withdraw the whole of our force from Salonica, as this is the quarter which taxes our resources most heavily and, from the military point of view, gives no promise of a successful offensive. Apart from all questions of securing shipping and releasing H.M. ships from escort work in the Salonica area for use elsewhere, it is a fact on which I am bound to insist with great emphasis that the Navy will be unable to meet the demands recently put forward for the removal of sick and wounded from this area.

“(b) We realise that we cannot continue to bring reinforcements of troops into this country unless they are convoyed in ships carrying other essentials from the Colonies, such as food, etc., as we cannot afford to provide the necessary escorting ships.

“(c) The policy of importing labour is at once abandoned for the same reason.

“(d) The import of everything that is not essential to the life of the country is ruthlessly and immediately stopped.

“If the Government will deal at once with these proposals a certain quantity of tonnage will be released, and, as it becomes available, should be devoted entirely to the import of food-stuffs until we have placed this country in a position to withstand the siege to which it is about to be subjected.

“The release of the transporting, escorting and conveying vessels now devoted to the purposes named above will also assist in providing protection for convoys of ships bringing into this country essentials in the way of food and munitions, but, even with all this, we shall be very hard put to it unless the United States help to the utmost of their ability.

“When with this help supplies have been received and the country is in a position to withstand a siege, then we can reconsider the whole position. Without some such relief as I have indicated—and that given immediately—the Navy will fail in its responsibilities to the country and the country itself will suffer starvation.

“(Signed) J. R. JELlicoe.

27th April, 1917.”

It is clear that the writer of this ultimatum was far from believing that the great problem of the war had been solved, and that relief would inevitably and speedily follow. The word convoy was used, but only in the sense in which it had been used from the beginning of the war: there is no reference to the new and comprehensive system which had just been decided upon, or to the results which might eventually be

expected from it. The whole intention of the writer is to call for a prolonged and desperate effort of endurance in the immediate future. What is urged is a palliative which may avert an imminent catastrophe. The situation is not one which can be dealt with by setting up committees: the first principles of strategy must be recalled and acted on. Insecure communications mean disaster: if our lines of communications are not reduced and strengthened at once, the country, which has hitherto known only an unsuccessful blockade, will have to face a siege—that is, a successful blockade: starvation. The Navy has been called upon to do that for which its resources are inadequate: without some such relief it will fail in its task.

This document was signed by the First Sea Lord on April 27, and sent to the First Lord that he might lay it before the War Cabinet. It was only on May 1 that the First Lord transmitted it to the Prime Minister, and by that time it had already been indirectly answered. During the Prime Minister's visit to the Admiralty on April 30, Admiral Jellicoe had delivered himself verbally on the main point—the necessity for withdrawing from the Balkans—and the Prime Minister in his minute records his intention of asking his colleagues to sanction this step. On the following day he announced to the War Cabinet that he had arranged for the First Sea Lord to accompany him to an Anglo-French conference in Paris; and there on May 4 Admiral Jellicoe once more urged the withdrawal of our forces from Salonica as the course most necessary for salvation. The Prime Minister had feared that the proposal would be unfavourably received; but the prestige and grave sincerity of the British Admiral were as effective with our Allies as they had been at home. Withdrawal was agreed upon: by a fortunate turn of events it proved afterwards to be unnecessary, but the proposal and the manner in which it was put forward are interesting as evidence of the relative values assigned by Admiral Jellicoe to the resources at his disposal in the supreme crisis.

The ships which he hoped to recover from the Salonica service for use in the importation of a national food reserve were about 150 in number, with an aggregate of some 400,000 tons. Of these he was disappointed, for the importance of the Salonica force increased steadily towards a decisive conclusion. But a compensating gain of exactly 400,000 tons of shipping came in from another quarter. Within a few days of the reception by the First Lord of Admiral Jellicoe's stark and sombre warning, a civilian Minister, Sir Leo Chiozza Money, laid a memorandum before the Prime Minister con-

taining a suggestion which was eventually turned to good effect. In his paper, which was long and highly technical, he analysed the existing methods of distribution of American food-stuffs and minerals, and came to the conclusion that the Entente Powers could draw all their necessary supplies of food, minerals and fuel from Canada and the United States alone, if the United States Government would agree to give demands from the Allies absolute priority over demands from all other countries. This policy, if adopted without delay and carried through vigorously, would release shipping ordinarily employed upon longer routes, and so increase the total annual carrying power of the British merchant service. The estimate showed, in fact, that if twenty-four million tons out of the thirty million tons of necessary imports could be brought over from the United States, then 1200 vessels would suffice to carry them. When the memorandum was written there were 1750 British merchant vessels employed in commercial traffic; so that even if no neutral vessels could be brought into the British service—which was most improbable—there would still be 550 merchant ships in reserve to fill up the gaps created by the German submarines. Apart from this, the concentration of vital shipping upon one known route would very much simplify the defence problem. "We are tempted to imagine that some heaven-sent genius will show the Admiralty how to destroy the submarine. The fact is that it is from a scientific point of view an inherently difficult problem, unlikely to be solved in this war. The Admiralty must no longer be given an impossible task. It is merely foolish to scatter targets about the high seas and expect the Admiralty to protect them. The essence of my proposal is to deprive the enemy of a large part of his field of action and so to use our ships as to give the Admiralty a fair chance of saving them."

Although the policy which the Government was thus urged to adopt was one which promised to lessen the danger in which the country stood, its author seems to have misunderstood the probable effect of his plan upon the naval side of the question. Ships from America approach the British Islands in the Fastnet-Land's End-Ushant triangle where they were being destroyed in such numbers, or in the approach to Tory Island, where the destruction was also severe in proportion. To concentrate ships upon the North Atlantic route would increase the number of ships compelled to pass through what had proved to be the zone of greatest danger to them. If Sir Leo Chiozza Money's plan had stood alone, therefore, it might easily have made the western approaches to the British

Islands a more profitable area than ever to the German submarine commanders; but it so happened that the plan fell in with the recent Admiralty decision to place merchantmen under armed escort. The convoy system could only be put into operation gradually; but its authors had always intended that the North Atlantic trade should be the first to receive protection. Actually, therefore, Sir Leo's concentration project would draw shipping away from the unprotected to the protected routes, and would effectually restrict the target of the German submarines, though not in the manner that he supposed.

In point of fact, the Ministry of Shipping had, for months past, been concentrating as many ships as they could upon the North American route; but, as the Minister pointed out, the rigorous, exclusive concentration that Sir Leo was urging could only be carried out with American co-operation, and this could only be obtained by the Government.

Sir Leo Chiozza Money's paper, and the Shipping Controller's comment upon it, must be regarded as the starting-point of a plan which deeply affected the strategical position during the remaining months of the year. In Great Britain effect was almost immediately given to the scheme, and as soon as it was communicated to them, the American Government gave it their most energetic co-operation. Their rigorous system of embargoes upon all goods not intended for the Entente Powers automatically drew surplus American exports into British and Allied ships; as the scheme expanded, so the system of convoy expanded also; and the final consequence of these two measures was to ensure a supply of vital imports, and to give them adequate protection.

3

The French Coal Trade

We have seen that in his memorandum advising the adoption of a convoy system, Admiral Duff referred to the French coal trade as one of the instances which had influenced his decision. He was here referring to an experiment with a somewhat elementary form of convoy which had given very satisfactory results. The coal trade between Britain and France had been very severely attacked during the last part of the year 1916, and at the instance of the French authorities a system of controlled sailing had been put in force on February 7. The traffic was distributed over three routes. The first—route "A"—ran between Mount's Bay and Brest;

the second and third, "B" and "C," between Weymouth and Cherbourg and Weymouth and le Havre. Crossings took place every twenty-four hours; the vessels engaged in the trade were either sent across in groups steaming in rough formation and proceeding according to special route instructions, or were escorted by armed trawlers of the Auxiliary Patrol. The forces allotted to escort duty were not large; eleven armed trawlers protected the crossings between Mount's Bay and Brest; fifteen sufficed for the Havre and Cherbourg routes. That the results were satisfactory can be seen from the following figures :—

| Month. | Route A. | | Route B. | | Route C. | | Total. | |
|---------|------------------------|--------------------|------------------------|--------------------|------------------------|--------------------|-----------------|-------------|
| | No. of ships convoyed. | No. of ships lost. | No. of ships convoyed. | No. of ships lost. | No. of ships convoyed. | No. of ships lost. | Ships convoyed. | Ships lost. |
| March . | 364 | Nil | 121 | Nil | 715 | 3 | 1,200 | 3 |
| April . | 401 | 2 | 148 | " | 834 | Nil | 1,383 | 2 |
| May . | 454 | 3 | 242 | " | 737 | 1 | 1,433 | 4 |

These figures were certainly striking; to Admiral Duff they were a clear suggestion that Atlantic trade would be better protected if it sailed in convoys. But the suggestion did not yet amount to a proof. There were great technical differences between the controlled sailings of the French coal trade and the system of trade defence that had just been ordered. It could be arranged that the freighters in the coal trade to France should do most of the cross-Channel passage at night. It would be quite impossible for the ocean convoys to have any equivalent security, for they would be at least two days and nights in the danger area. Still, the exceptional immunity that the French coal trade had enjoyed since it had been placed under this modified system of convoy was certainly remarkable. During the quarter ending April 1917 rather fewer than thirty armed trawlers had given protection to over 4000 cross-Channel voyages. On the Penzance-Brest route, which could not be traversed in a single night, three trawlers were generally allotted to convoys which might number twenty vessels. This entirely disposed of the objection that escorts to be effective would have to outnumber the convoy. Figures and statistics dealt quite as decisively with the argument that convoys would prove exceptionally vulnerable. During the months of March and April German submarines had delivered nearly two hundred attacks in the Channel area, only about twenty of which had been directed

against the controlled groups in the French coal trade. Nor was this difficulty merely the effect of darkness: a considerable number of the attacks upon isolated ships had been made at night. This successful experiment therefore suggested one of two conclusions, both highly favourable—either that the German submarine commanders were chary of attacking merchantmen sailing in groups, and under escort, or that such groups were difficult to find. Moreover, it appeared that these conclusions were not conditioned by the strength of the escort or the looseness of the formation in which the convoy sailed.

4

The Dutch Patrol

Of all the traffic routes, that between the Thames and Holland had the distinction of being the easiest to attack. Not only could it be raided from the Bight in an operation of a few hours' duration, but also on the flank of the route lay Zeebrugge with its flotilla of submarines and new destroyers. Yet it was not till the end of June 1916 that on this specially vulnerable line any notable loss occurred. On the 23rd of that month Zeebrugge destroyers captured the British packet *Brussels*, which had made many passages unscathed, and which was then commanded by Captain Fryatt. Another packet of the same line was to leave the Hook of Holland three days later, and a special patrol of the 9th Flotilla from Harwich was sent out to safeguard her passage. The patrol was not an escort; it was to keep out of sight of the packet, lest she should mistake our destroyers for the enemy, but it was to steam parallel with her so as to be at hand in case of attack. No attack developed; the packet's voyage to England passed without incident. From this date onward the Harwich Force was called upon to provide whenever possible a strong patrol off the Dutch coast, with the idea of surprising any German destroyers which might come out of Zeebrugge to attack the traffic with Holland. On July 5, a day on which no patrol happened to be out, another British steamer on the Dutch route was captured and its crew taken prisoners to Zeebrugge. Two vessels were due to leave Holland next day, one a railway packet and the other a steamer of the Dutch Batavier line. The provision of direct escort for the British ship presented no difficulties, and five Harwich destroyers sailed to meet her. But to give the *Batavier* a similar escort would confer on her the status of a protected convoy, and would deprive her of such precarious

immunity from destruction without warning as neutrals were supposed to enjoy in the submarine campaign of that period. The difficulty was surmounted by the despatch of five Harwich destroyers to meet her at the Maas light vessel and unostentatiously to keep in sight of her during her passage. As it happened she sailed earlier than the appointed time and was not met till she had completed half her voyage; but the case is of special interest, since she was the first Dutch vessel to receive escort, discreet though it was, from British naval forces.

In pursuance of an agreement made with the Dutch agricultural interests, a large amount of food which had formerly been sent to Germany was allocated to England, and the number of passages of ships employed to transport this food was proportionately increased. To baffle submarines the vessels crossed at night. It was naturally anticipated that ships carrying away from Holland food which had been diverted from Germany would be a special target, probably for destroyer attack, and the Harwich Force was ordered to patrol whenever the ships made the passage. Late on July 19 the Admiralty learned that German destroyers were off the Hook of Holland. Commodore Tyrwhitt was at sea with the patrol on the Dutch coast; he was warned of the enemy's presence, but since no meeting took place it is probable that the German destroyers had gone home by the time he received the Admiralty's message. Three days later, when he was out again on this patrol, he met and engaged a few enemy destroyers, driving them off and securing the safe arrival of all the merchant vessels on passage.

This special protection of British ships on the Dutch passage steadily and rapidly grew into a definite routine known familiarly as the Beef Trip. Before the end of July 1916 the arrangements took the form of a convoy with escort.¹ On July 26, five British vessels left the Hook of Holland in company, with orders to follow a certain route, eight other ships proceeding from the Downs at the same time along the same route reversed; the eastbound convoy was escorted to Dutch waters and the westbound brought back from there, each convoy having a direct escort of one light cruiser and four destroyers, while a similar force patrolled at the Schouwen to tackle any destroyers which might come out from Zeebrugge. Thenceforward British steamers to and from Holland passed only in convoys. These were arranged at intervals of two or three days and consisted of four to nine ships, the westbound convoy leaving Holland at the same time as the

¹ The orders of July 31 describe the group of steamers as a "convoy."

eastbound passed the North Hinder light vessel; and the escort of these frequent convoys was one of the principal activities of the Harwich Force.

The convoys crossed at night, a measure intended to give the maximum amount of difficulty to any attacking force. These night crossings had their disadvantages, however—the ships in the convoys were apt to straggle from their differences of speed. One particularly slow vessel, the *Orient*, was frequently the subject of adverse comment by the commanding officers of the escorts, who pointed out that she either had to be permitted to act as a drag on the other ships or else had to be furnished with an individual escort, thus robbing the whole convoy of part of its protection. In spite of the firm conviction of the escort officers that the *Orient* was bound to be torpedoed before long, it was not she that became the first loss after this convoy system had been inaugurated. The *Colchester* was another Great Eastern Railway steamer similar to the *Brussels*, whose capture had led to the routine conveying of the traffic with Holland. On September 21 she was one of an eastbound convoy of four ships which had orders to pass seven miles to the northward of the North Hinder at 10.0 p.m. There the escorting destroyers would wait to pick them up and escort them to Dutch territorial waters. The night was very dark but of unusual clearness. At the appointed time the waiting destroyers saw only two steamers eastbound. They refrained from making signals in order not to attract the enemy's attention; but since the well-known *Colchester* had not arrived, two of the destroyers remained at the rendezvous to wait for her and the other ship. Neither appeared: in fact, the last had not sailed. But of the *Colchester's* fate nothing was known till the 23rd, when Wolff's Bureau reported that she had been taken into Zeebrugge during the night of September 21-22.

The loss of the *Colchester* led to a radical change in the convoy routine. A new set of orders was issued by Commodore Tyrwhitt on October 5. The principle of direct escort was abandoned. The passage was made entirely in daylight. Eastbound traffic passed the North Hinder at 10.0 a.m. and westbound ships left the Hook of Holland at 7.0 a.m. The whole of their route was divided into eight sections, and during the passage of the merchant vessels each of the eight sections was occupied by a destroyer zigzagging at fifteen knots. Thus the method of "convoy" was superseded by the method of "patrolled routes." But this lasted only a month. In November the system of directly escorting a convoy was reinstated, with the slight modification that

the four escorting destroyers were to spread themselves so that the leading destroyer should be on the beam of the leading merchant vessel and the last destroyer on the beam of the last ship.

The security resulting from this routine convoy system had the effect of increasing the size of the groups escorted twice a week. The convoys of November 27 consisted of eight eastbound and eleven westbound ships. To the relief of the escort officers the slow old *Orient* was no longer on this trade; there were other ships nearly as slow, but they made the passage time after time without being attacked. From the inauguration of convoys to Holland in July 1916 to the outbreak of "unrestricted" warfare in February 1917, the only loss recorded was that of the *Colchester*.

5

American Reinforcements

We have seen that the prospect of American naval assistance and harbour facilities had influenced the Admiralty in their recent decision. Admiral Jellicoe had referred to it in the memorandum which he laid before the War Cabinet on April 23, and Admiral Duff had mentioned it as one of the reasons for his proposal of a system of convoy on April 26. Arrangements had not at that date gone very far, but the few decisions taken gave hope that American co-operation would be free and ungrudging. The Admiralty were therefore justified in reckoning upon it when making new plans for the conduct of the naval campaign.

As far back as March 23 the Admiralty had cabled to the British Naval Attaché in Washington, to tell him that he might henceforward communicate the Admiralty's views to the authorities in the Navy Department, whenever his advice was asked for. In particular, he was informed that the Admiralty were prepared to base a force of destroyers on the south-west coast of Ireland, to operate against enemy submarines and protect trade.

At about the same time that the British Naval Attaché received these instructions, the American Government itself moved in the matter. In the latter part of March 1917, Admiral Sims, who was then serving as President of the Naval War College at Newport, was summoned to Washington, told that war with Germany was imminent, and ordered to proceed to London as rapidly and secretly as he could. His orders were to "study the naval situation and learn how we

could best and most quickly co-operate in the naval war." He reached England on April 9, and interviewed Admiral Jellicoe on the following day. America had declared war on April 6 and there was no longer any reason for reserve or secrecy.

Admiral Jellicoe seems to have described the position to Admiral Sims in the same way that he described it later on in his memorandum to the War Cabinet: the losses in our merchant fleet were so serious that they could not be borne, and the first and most urgent need was for destroyer reinforcements in the Queenstown command. In addition, the Admiralty desired the American navy to strengthen our hold on the outer routes by establishing a flying squadron in the Atlantic to hunt for raiders, by keeping squadrons off the south-east coast of America, the Gulf of Mexico, and the west coast of America as far as Panama; and by maintaining another squadron in China to look after Allied interests in the Far East. In the matter of the blockade, the American Government was asked to institute special examination of neutral vessels loading in the United States.

The actual facts of the submarine campaign were a revelation to Admiral Sims; he had never imagined for an instant that the situation of the Allies was so critical, and he lost no time in cabling two very serious reports to the Navy Department. He accepted the Admiralty's view without demur; the submarine campaign was the deciding factor of the war, and the decisive theatre of the campaign was the "focus of all lines of communication in the Eastern Atlantic." He therefore urged that the Navy Department should immediately send as many destroyers and anti-submarine craft as could possibly be spared. The destroyers were to be based on Queenstown and have an advanced base at Berehaven; the anti-submarine craft were to set up an inshore patrol. In order to overcome any possible opposition or reluctance on the part of the Navy Department, Admiral Sims added a detailed criticism of the suggested alternatives which were then being discussed in London and (presumably) in Washington. With regard to convoy he unreservedly accepted the Admiralty's view that it was impossible—the High Naval Command had not at that date changed their opinion—and that the project of sealing up the entrances to the German rivers was equally impracticable. Finally, remembering, probably, how much the popular clamour for protection of the American coasts had tied the hands of the naval authorities during the Spanish war, Admiral Sims refuted the notion that the German submarine campaign was

likely to spread into the Western Atlantic. "The evidence is conclusive that, regardless of any enemy diversions such as raids on our coasts or elsewhere, the critical area, in which the war's decision will be made, is in the Eastern Atlantic. . . . The known number of enemy submarines, and their rate of construction, allowing liberal factors for errors of information, render it inevitable that the main submarine effort must continue to be concentrated in the above critical area. . . . From consideration of the above, and all other essential information available, it is apparent that the enemy could not disperse his main submarine campaign into other quarters of the globe without diminishing results in this and all areas. . . ."

Meanwhile conferences had been taking place in the United States. On April 10, Admirals M. E. Browning and Grasset, the Allied Commanders-in-Chief of the North American and West Indies Station, met the American naval authorities at Hampton Roads. After a preliminary discussion they went on to Washington, and a conference was held in the Navy Department buildings, with Mr. J. Daniels, the Secretary to the Navy, acting as Chairman. In his opening remarks Mr. Daniels said that the American navy wished to co-operate with the Allies "to the utmost of its power," and both he and the American Admirals made good their promise. On April 13, Admiral Browning cabled to London that the Americans had practically undertaken to carry out all the suggestions made to them. A squadron was to be kept in constant readiness to act against raiders. An East Coast of America Squadron would be equipped and sent out as soon as possible; the United States navy would look after the west coast of North America from the Canadian to the Columbian boundary, and would supervise and patrol the Gulf of Mexico; also, the United States China Squadron would remain in the Pacific.

On April 24 Mr. Balfour arrived in America with a Mission, composed of Lord Cunliffe, who was commissioned to deal in questions of finance, Mr. Layton, the representative of the Ministry of Munitions, Mr. Anderson, the Chairman of the Wheat Commission, General G. T. M. Bridges, and Admiral Sir D. R. S. de Chair. The members of the Mission were made the guests of the American nation, and received the same assurances of whole-hearted, unstinted assistance that had been given to the naval Commander-in-Chief. All the United States Government asked for was a candid explanation of the problems involved in mobilising the national resources. They were ready to act drastically on all matters relating to the

blockade of Germany. Their representative undertook to set up an Exports Control Committee, with a Licensing Bureau subordinate to it, and they undertook to be guided by the British War Trade Intelligence Department in all matters relating to evidence against consignees and rations for neutral States, but not themselves to publish or issue a statutory black list.

The Americans acted very promptly on the immediate question of destroyer reinforcements. On May 4 the 8th Division, composed of six destroyers, arrived at Queenstown; they were followed, on the 17th, by the 9th Division; and on the 24th by the 6th.¹ The Queenstown command thus received an important reinforcement of eighteen destroyers, two months after America had declared war.

These reinforcements made it possible to redistribute the naval forces in the Irish area. The northern approach route, which closes the Irish coast near Tory Island, had been only weakly protected since the submarine campaign began; and the Admiralty were anxious to strengthen the defence.

On May 4, therefore, all "E" class submarines in the Queenstown command were ordered north to Lough Swilly, to operate along the parallel of 55° N. between the meridians of 11° and 13° W.; and on what was known as the exit route between the 10th and 12th meridians. Later, this submarine patrol was reinforced by four destroyers from Queenstown. Also, the Admiralty appointed Rear-Admiral F. S. Miller to take charge of the northern division of the Irish Command (May 18), which was created to relieve the growing pressure of work upon Queenstown.

These measures were supplemented by another which affected the anti-submarine campaign in the Channel. The air patrols of the coastal routes were now recognised to be an exceedingly important item in our system of defence. On the French side there were air stations at Dunkirk (10 seaplanes, 5 pursuit planes), Boulogne (5 seaplanes), Havre (5 seaplanes), Cherbourg (4 seaplanes), Brest (13 seaplanes), each with a definite patrol zone allotted to it; and on the British side at Newhaven (12 machines), at Bembridge (12 machines), at Calshot (4 machines) and at Portland (12 machines).

The need for co-ordinating the work of these two organisations was obvious; and, at the instance of Commander

¹ 8th Division : *Wadsworth, Conyngham, Porter, Wainwright, MacDougall, Davis.*

9th Division : *Rowan, Cassin, Ericsson, Tucker, Winslow, Jacob Jones.*

6th Division : *Cushing, Sampson, Benham, Nicholson, Cummings, O'Brien.*

Laborde—the head of the French Naval Aviation Service—a conference assembled at the Admiralty on May 11. The limits of the British and French patrol zones were settled, and a common code of visual and wireless signals was drawn up, in order that submarines when located in one zone should not be lost sight of, but should be followed up by the aerial and surface forces of any zone into which they might subsequently enter.

6

The Flanders Bight, April-May, 1917

We have already seen that naval officers clung tenaciously to the idea of checking the submarine campaign by a direct attack upon the Flanders coast. There could be no question at all that the idea was excellent, whether it was possible of execution was another matter. The defences of the Flanders coastline were exceptionally strong. A heavy battery (the *Kaiser Wilhelm II*) had been erected at Knocke to the eastward of the Bruges canal; one and a half miles to the west of Ostend was the *Tirpitz* battery; and two more were under construction.¹ Between these batteries the coast was defended by a large number of mobile and semi-mobile guns, trenches and machine-gun nests. Admiral Bacon did not think that these formidable obstacles made a landing impossible, and he had drawn up a detailed plan for putting three brigades ashore at Middelkirke, behind the German right flank. The plan had been approved by the military authorities, but it was not to be put into operation until the army had advanced to a certain predetermined line. This project, which was little more than a flanking movement from the sea against limited objectives, did not affect the bigger question of attacking the two bases at Ostend and Zeebrugge. To all appearances they were invulnerable: even if the shore defences could be temporarily mastered and a landing effected, the ultimate fate of an expedition which could not join hands with the armies in Flanders could hardly be in doubt. The Germans would mass enough forces to drive the landing forces from the strip of coast that they had seized and mow them down on the Flanders beaches from their gun positions in the dunes. There was, none the less, one weak point in this powerful system of defence, a weak spot which could not be strengthened or protected. Zeebrugge is, as its name implies, the harbour of Bruges—in the Walloon nomenclature

¹ The *Kaiser Wilhelm II* mounted four 12-inch guns, range 41,000 yards; the *Tirpitz* mounted four 11-inch guns, range 35,000 yards.

the matter is put more clearly, the place is called Bruges-port-de-mer; but it is a seaport by artifice, not by nature. Continuous traffic can only be maintained between Bruges and its harbour by means of the locks at Zeebrugge. "With these destroyed," wrote Admiral Bacon, "the canal would be made tidal and communication with Bruges practically stopped." As there could be little doubt that two 15-inch shells from the monitors would wreck the lock gates, if they hit them, the consequences of a successful bombardment would be far-reaching. The difficulties were, however, very great. Owing to the presence of the *Kaiser Wilhelm* battery, with its effective range of twenty sea miles, the bombardment would have to be carried out by indirect fire; the problem resolved itself into that of hitting an invisible target ninety feet long and thirty feet wide from a distance of about thirteen miles. Every difficulty inherent in bombarding the land from the sea would thus be magnified in this particular operation. The direction of the target could only be found by a rough experiment, subject to every kind of error; the results of the bombardment would have to be communicated by aeroplanes hovering above hostile territory and engaged with the enemy's air forces; the bombarding ships being well within the range of the *Kaiser Wilhelm* battery, might be overwhelmed by the enemy's fire before our gunfire could be corrected by the fine adjustments necessary for hitting so small a target.

Admiral Bacon had calculated the chances of a successful issue with scientific detachment. "Theoretically," he wrote in a general memorandum, "with a gun laid accurately for range and direction, one round in every sixty-three should hit a gate. Hence, at least 126 rounds are required to make a hit probable on each of two gates. As, however, the laying will not be so exact as with a shore gun, at least twice this number, or 252 rounds, will be required." The three monitors capable of bombarding at long range: the *Erebus*, *Terror* and *Marshal Soult*, could each fire one round per minute. The bombardment would therefore have to last at least eighty-four minutes for the 252 rounds to be fired. Admiral Bacon had also to consider whether he could legitimately incur the risk of loss involved in this protracted operation, carried out within range of the *Kaiser Wilhelm* battery. This was not reducible to an arithmetical calculation; but his analysis of the chances of success led him to believe that if the enemy could be taken by surprise, and the bombardment opened before they had time to range and lay their guns, and if the bombarding ships could be well hidden by smoke screens, then there was a good

chance that the enemy would be unable to find the range during the eighty-five minutes allotted to the operation. The question could not, however, be settled beforehand. "Undoubtedly to break up the lock gates would be worth the loss of a monitor," wrote Admiral Bacon, "but the loss of three monitors, with the gates left intact, would mean that totally unjustifiable risks had been run. No indication, therefore, of my probable decision on this point can be given in advance."

The greatest obstacle to a successful issue was, however, that the operation could only be carried out under conditions of wind and weather which did not occur except at rare and irregular intervals. If the bombardment was to come as a surprise the bombarding monitors would all have to be in their firing positions before daybreak; morning mists hanging over the target would wreck the operation; the tide would have to be running along the coast so that the anchored vessels would keep their broadsides towards the target. If the clouds were low, aeroplane spotting would be impossible, and the wind would have to be in the first or fourth quadrants in order to keep the smoke screen constantly between the ships and the shore. A shift of wind to the south-east or south-west would simply blow the screen across the bombarding vessels. The necessary conditions, if once obtained, could hardly be expected to hold for any length of time; so that there was little chance that an operation nearly successful on one day could be renewed on the next.¹

Three times Admiral Bacon assembled his bombarding squadron in the Downs and started for Zeebrugge, and on each occasion a change in the weather compelled him to turn back. On the evening of May 11 he had again collected his squadron in the Downs anchorage and had issued orders for the operation to be carried out on the following morning, but the ships began to leave between eleven and twelve, when it was still pitch dark, and there was as little certainty as ever before that the bombardment would take place. The first

¹ Admiral Bacon allotted forty-one ships and launches to the operation :

3 15-inch monitors : *Terror* (flag); *Marshal Soult* and *Erebus*.

1 12-inch monitor : *Sir John Moore*.

2 "M" monitors : Nos. 24 and 26.

2 destroyer leaders : *Botha* and *Faulknor*.

8 destroyers (6th Flotilla) : *Lochinvar*, *Landrail*, *Lydiard*, *Mentor*, *Moorsom*, *Morris*, *Mermaid*, *Racehorse*.

6 paddle minesweepers.

19 motor launches.

Commodore Tyrwhitt detached 2 flotilla cruisers (*Lightfoot* and *Nimrod*) and 12 destroyers to assist and cover the operation.

part of the plan was a piece of preparatory work upon which the success of the whole operation depended. It was to lay a buoy in the bombarding position, and then to discover the true bearing of this buoy from the base of the mole. In time of peace there would have been no difficulty here: the problem would have been solved by astronomic and geodesic observations; but as neither astronomy nor geodesy can be practised off an enemy's coast, within range of an enemy's batteries, the true bearing had to be obtained by a very hazardous experiment. The duty was entrusted to Commander J. S. G. Fraser; at eleven o'clock he got under way in the *Lochinvar*, with the *Lydiard* accompanying him, and, after steaming for three and a half hours, laid the first buoy, from the *Lydiard*, about fifteen miles to the north-westward of the head of the mole. This buoy was intended to guide the squadron to its bombarding position, and Commander Fraser stayed by it until he saw the fleet approaching. He then steamed on to the position of the bombarding mark, which he laid at about twenty minutes to four. After a further wait he turned towards Zeebrugge and started his difficult and risky experiment. His method of obtaining the true bearing, upon which the whole bombardment depended for its success, was to steam right up to the mole on a steady course and at a regular speed, to note down carefully how the mole bore when it was sighted, and from the observations thus obtained to work out how the bombarding ships bore from their target. He started at four o'clock; it was by then full daylight, but the weather was so misty that he could only see a mile ahead; as a consequence he knew that he would have to steam almost to the muzzles of the German guns before he could get his bearing. As he steamed in, he heard the German anti-aircraft gunners open fire upon the aeroplanes which had been sent up from St. Pol to spot the fall of the shot. The mist was still thick, and a few minutes later he realised that the *Lochinvar* was in very shoal water; shortly afterwards he saw "the loom of the mole" quite close ahead, and turned the ship under her screws. The anti-aircraft guns were then heavily engaged. The *Lochinvar* was back at the buoy at a quarter to five, and Commander Fraser at once signalled the bearing and distance which he had risked so much to obtain.

Meanwhile Admiral Bacon had reached his bombarding position. Near the buoy laid by Commander Fraser were the *Erebus*, the *Terror* and the *Marshal Soult*. To the north-north-west of them was the *Sir John Moore*, which was to be used as a back-aiming mark. Well to windward and towards

the shore was the line of the motor boats anchored on a line of bearing, ready to loose the smoke screen. The destroyers and flotilla leaders and older monitors were stationed round the bombarding ships in a rough rectangle. The *Lightfoot*, with a group of Harwich destroyers, detached on the previous evening, was cruising near the Thornton Banks, ready to act as a covering force if the enemy's destroyers attempted to interfere with the operation: the *Nimrod* and four destroyers were zigzagging round the fleet as a submarine screen. The paddle minesweepers with their sweeps out were dragging between the firing monitors and the *Sir John Moore*.

Owing to the haze the squadron could not open fire at the scheduled time, and this threw out the air force arrangements. The Royal Naval Air Force headquarters at Dunkirk allocated two spotting machines for Zeebrugge, and covered them with an escort of nine Sopwith planes. In addition to this, six fighting machines from No. 10 Squadron were sent to fly over the fleet and protect it against interference by hostile bombers; and a force of seven machines, taken from No. 4 Squadron, was ordered to patrol the coast and fight all enemy machines which interfered with the spotters. The two spotting machines left the ground at two o'clock; but one of them was compelled to land in Holland owing to engine trouble: the second machine reached Zeebrugge before 3 a.m. and was obliged to wait for nearly two hours before firing began. The spotting of the fall of shot upon which so much depended was thus carried out by one machine with a failing supply of petrol.

The firing began shortly before five, a few minutes after Commander Fraser reported the bearing and distance of Zeebrugge mole. The first shells fell very short, and as a considerable number of shells did not burst, spotting corrections were not received for every shot; but the bombardment became very accurate after five o'clock; the *Marshal Soult's* twelfth round was reported as a hit, the *Erebus* was declared to have found the target with her twenty-sixth round. The results of the *Terror's* shooting were rather more difficult to ascertain, as she was most hampered by the partial breakdown of the spotting arrangements, owing to the failure of the shells. Of the 250 shells sent down, only forty-five were reported. More than that, the spotting machine was so short of petrol that she had to go back at half-past five; and during the last half-hour the shells had to be kept on the target by estimated corrections.

For the first hour the enemy only interfered with the

operation by endeavouring to jam the wireless reports of the spotting machine and by keeping up a steady fire from the anti-aircraft artillery; but towards six o'clock his opposition began to stiffen. The seven machines of No. 4 Squadron left the ground at about five o'clock, and reached Zeebrugge about three-quarters of an hour later.* They were at once engaged by a German squadron of more than twice their number, and a long engagement took place in the air over the scene of the bombardment. The aeroplanes of No. 4 Squadron were reinforced by some of the escort machines; but throughout the enemy overweighted and outnumbered them. The British formation was split up at the beginning of the action; but in spite of the disadvantages under which they fought, our airmen got the upper hand in the struggle. Five enemy machines were shot down, three of which fell into the sea, and it was largely due to this successful action in the air that the squadron completed its bombardment unmolested. At six o'clock Admiral Bacon ordered the ships to weigh and the firing ceased. The Knoeke battery was just opening fire, and he returned to harbour under the impression that the lock gates were damaged and that the operation had been successful. He was nearly, but not quite right. Photographs taken from the air, a week later, showed that at least fifteen shells had fallen on the western side of the lock within a few yards of the gates; on the eastern side the shot had been more scattered; but four shells had only missed the target by the same tantalisingly narrow margin. The pump house and its engine escaped by a sort of miracle. The basin to the north of the locks had been hit and the dockyard had been considerably damaged; but after as before the bombardment, Zeebrugge was a base from which the destroyers and submarines could operate with telling effect. The operation had not succeeded; but the details of its execution remain as a permanent record of how the difficulties of coastal bombardment may be faced and overcome.¹

7

*The Submarine Campaign, May, 1917*²

During the month of May the results of the war against shipping showed that the German submarines had not been able to sustain the tremendous effort of the previous month. It was estimated that in April, 50 U, UB- and UC-boats had been at work, and that the total number of days spent on cruise had been 660; in May these figures had fallen to 40

¹ See Map 12.² See Map 1.

and 535. The number of UB- and UC-boats had been the same as in April (about 24); but the number of operating U-boats had fallen from 25 to 16. As the large type of submarine was particularly allotted to the south-western approaches and the Atlantic the losses on the outer routes had been slightly less severe—they had fallen from 191 vessels to 156. In the Channel the sinkings had not varied (56 vessels sunk in April, 59 in May). The relaxation was thus only slight and the figures were almost as alarming as they had been in April. During May, 352,569 tons of British shipping were sunk, and the total destruction amounted to 596,629 tons. The Germans had, moreover, contrived to operate successfully against the Spanish ore trade off the north coast of Spain. On the first of the month, a UB-boat appeared off the Cantabrian coast near Santander, where she sank the Portuguese steamer *Barreiro*. She then steamed west, and sank five ships off Ribadeira on the 3rd and 4th. Two days later she was off Gijon, where she sank two more, and on the 7th she was off Bilbao. The attack was renewed by a UC-boat, which sank four vessels between Bilbao and Coruña between the 25th and 28th. This attempt to interfere with the Spanish ore trade was an extremely serious matter. Spanish freighters had practically abandoned the trade when unrestricted submarine war began; and the Spanish Government had stipulated that all vessels arriving at a Spanish port to load ore must bring with them coal to the proportion of 33 per cent. of the ore they intended to carry.¹ The German submarines were thus attacking a vital traffic which was already working under great difficulties; if the German naval staff had been able to keep submarines off the Spanish coast for longer periods, there can be but little doubt that the ore trade would practically have ceased.

The statistics of the losses in ocean traffic suggested that ocean convoy—the measure to which we were striving to give effect—was likely to affect the existing position considerably. As has already been shown, the defensive system then in force mainly applied to outgoing traffic; incoming vessels were only given general instructions, because there was no means of closely controlling the routes and movements of ships which had left their ports of departure a week or ten days before their arrival in the approaches to the British Isles. The list of sinkings showed that the Admiralty system of control had certainly kept the losses in outgoing vessels within limits, and that if it had been possible to take the same measure with regard to the import trade, the defence would

¹ See Fayle, *Seaborne Trade*, Vol. III., p. 51.

have been much less ineffective than it still was. The figures were these :

ATTACKS ON VESSELS IN THE NORTHERN ATLANTIC
AND THE CHANNEL

| | Vessels attacked whilst approaching Great Britain, France or Scandinavia from foreign ports in the N. and S. Atlantic. | Vessels attacked whilst proceeding from Great Britain, France or Scandinavia to foreign ports in the N. and S. Atlantic. | Vessels attacked whilst plying in local British trade or trade between Great Britain and France. | Fishing vessels attacked. | Attacks on vessels with an unascertained destination. |
|---------|--|--|--|---------------------------|---|
| March | 69 | 32 | 60 | 62 | 26 |
| April . | 110 | 30 | 32 | 9 | 36 |
| May . | 100 | 20 | 38 | 20 | 28 |

It will be seen at a glance that the import trade was now five times as vulnerable as the export trade, and that the ratio was rising. Obviously, therefore, armed escort was the only method of protecting that part of our ocean traffic which could not be brought within our existing system of defence.

8

The First Convoy, May, 1917

Meanwhile the first experimental test of the new Admiralty policy had been carried out successfully. On April 28 the Admiralty had telegraphed to the Senior Naval Officer, Gibraltar, informing him that it was proposed to start convoys for British and Allied vessels from that port, and that the first convoy should sail in about ten days' time. He was further informed that such convoys should not exceed twenty vessels, and should not include ships of more than eleven knots speed, as the sea speed of the convoy was not expected to exceed seven knots. He was to be prepared to fit each ship of the convoy with portable telephone from fore-bridge to engine-room, and fog buoy casks for station-keeping. On May 4 a further telegram was sent, instructing him to begin assembling vessels for convoy on May 7.

Meanwhile, Captain H. C. Lockyer received orders to go out to Gibraltar and take charge of the first convoy. On May 2 he sailed from Devonport with the special service ships *Mavis* (Acting Commander A. St. V. Keyes) and *Rule* (Lieutenant R. Langton-Jones), which were to act as ocean escorts. He arrived at Gibraltar on May 7, and by May 10 a convoy of sixteen steamers had been organised. On that day a

conference was held with the masters and chief engineers of the merchant ships, at which the arrangements for station-keeping, etc., were explained, and in the evening the convoy sailed. It was organised in three columns, the port column, in accordance with the instructions taken out by Captain Lockyer, comprising the steamers (five in number) bound for west coast ports. Three armed yachts from Gibraltar acted as additional escort through the danger zone as far as 11° west. The route followed was selected by the S.N.O. Gibraltar from one of two set out in the Admiralty instructions. Each merchant ship was provided with a signal rating R.N.V.R., for the purpose of taking in and repeating signals. Captain Lockyer, as Commodore of the convoy, led the centre column in the s.s. *Clan Gordon*. No enemy submarine was encountered, and the station-keeping and attention to signals proved on the whole satisfactory. The chief trouble was the inability of the lower-powered ships to maintain their nominal speed at sea. Although the actual speed of the convoy averaged only $6\frac{1}{2}$ knots, one seven-knot vessel had to be allowed, on two occasions, to proceed independently, and cut off a corner of the route, in order to arrive at the destroyer rendezvous in time.

The escort of six destroyers from Devonport should have been met at 8 a.m. on May 18; but owing to the convoy being twenty miles west of the rendezvous, they were not actually met until 4 p.m. on that day. When south of the Scillies the west coast column was detached, under escort of two destroyers, and dispersed off the Smalls on May 20. The east coast columns put into Plymouth on May 20, and sailed again the same evening. Off Portland the escort was relieved by twenty-four drifters from Poole, and the convoy proceeded up Channel in three divisions, each escorted by eight drifters. They arrived in the Downs on May 22, and from thence sailed to their respective destinations.

The success of this initial experiment was extremely encouraging, and went far to allay misgivings as to station-keeping. Further, the opinion of the masters, as expressed to the Convoy Committee, was that sailing in convoy greatly relieved the strain in the danger zone, by freeing them from the risk of capture, if not of sinking, and from all anxiety as to courses and the procedure to be adopted in view of war warnings.

Meanwhile, news came in that the authorities in the United States viewed the new Admiralty policy with deep misgiving. In their opinion, transmitted by cable to the Admiralty, defensively armed vessels were safer than vessels under

convoy; and early in May, when the Navy Department at Washington was asked to assemble a convoy of from sixteen to twenty Allied vessels, and to send them across to England under the escort of a group of American destroyers which were then about to leave, they answered that they considered the ships to be escorted were too numerous, and that they ought only to sail in groups of four. The proposal was, therefore, not pressed, the destroyers sailed by themselves, and the merchant ships crossed singly without escort.

9

The Flanders Bight, May-June, 1917

Admiral Bacon had intended to follow up his bombardment of Zeebrugge by a bombardment of Ostend dockyard on May 26; but the weather prevented him. A second attempt on the following day (May 27) had to be abandoned, and it was not until June 4 that conditions were favourable. A bombarding squadron of two monitors, two flotilla leaders, six destroyers, two P-boats and twelve motor launches left Dover at 10 p.m. on June 4, and made for the outer Ratel Bank.¹ At nine o'clock on the same evening Commodore Tyrwhitt, with four light cruisers, a flotilla leader and eight destroyers, left Harwich to cover the bombardment from the Thornton Bank;² he was followed half an hour later by the *Undaunted*, with three more light cruisers, and eight destroyers;³ this second detachment had orders to watch against enemy interference from the neighbourhood of the Schouwen Bank.

The preliminaries to the bombardment were similar to those for the operation against Zeebrugge. The firing buoy was to be laid by Commander Fraser, and its bearing and distance from the target was to be obtained by the same dangerous experiment. The ships not actually engaged in the bombardment were to be disposed round the firing monitors in a rough

¹ *Erebus*, *Terror* (monitors), *Botha*, *Faulknor* (Flotilla leaders), *Lochinvar*, *Lance*, *Manly*, *Mentor*, *Moorsom*, *Miranda* (destroyers); P-boats Nos. 11 and 50; Motor Launches Nos. 532, 279, 239, 252, 105, 282, 103, 272, 110, 280, 283, 276.

² *Centaur* (broad pendant), *Concord*, *Canterbury*, *Conquest* (Light Cruisers), *Lightfoot* (Flotilla leader), *Surprise*, *Truculent*, *Starfish*, *Recruit*, *Taurus*, *Sharpshooter*, *Satyr*, *Torrent* (destroyers).

³ *Undaunted*, *Cleopatra*, *Aurora*, *Penelope* (Light Cruisers), *Thruster*, *Redoubt*, *Skilful*, *Phæbe*, *Sybil*, *Retriever*, *Radiant*, *Springbok* (destroyers).

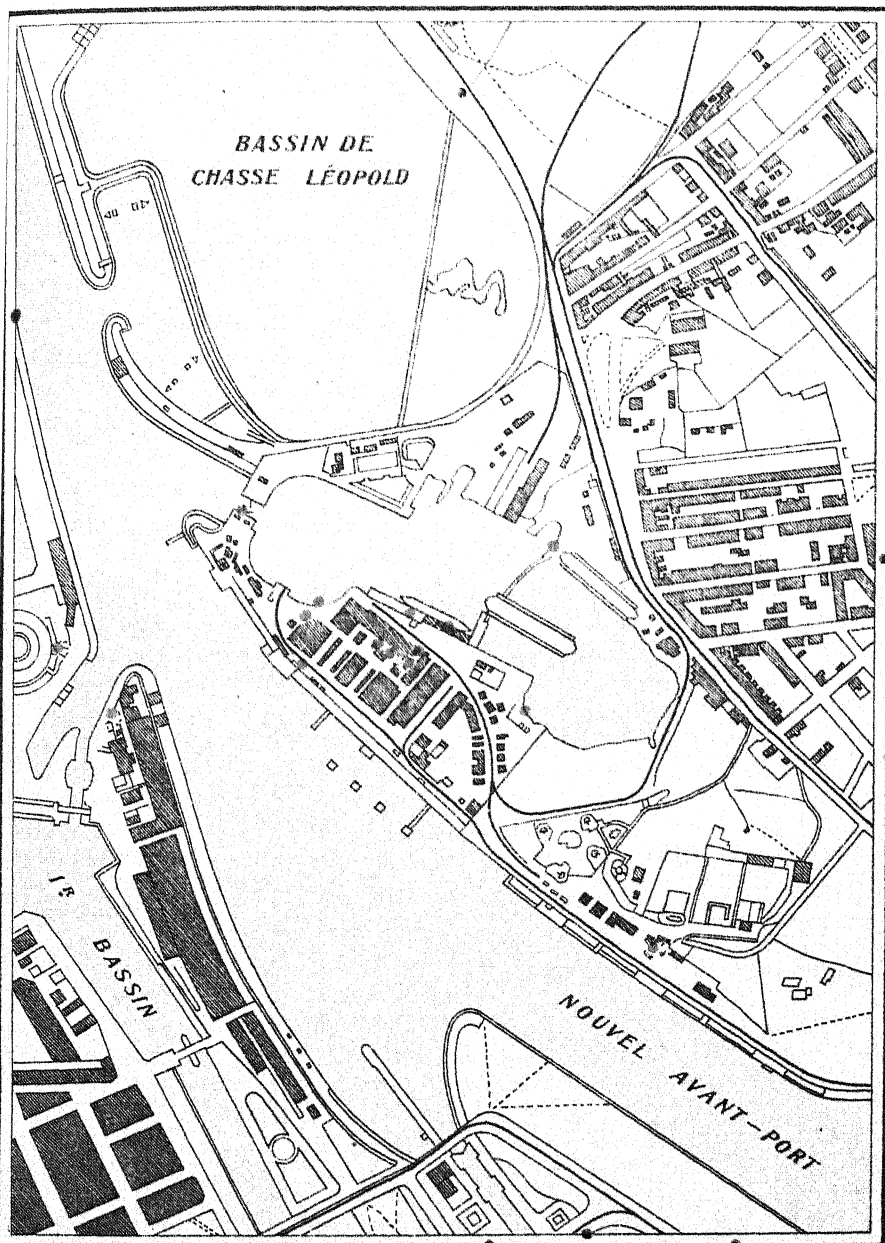
rectangle as before. The only difference was that the bombarding squadron was not quite so numerous as it was at Zeebrugge, and that the covering force sent out from Harwich was considerably stronger.

The force passed through a gap in the barrage near No. 11A buoy, and steered for the northern end of the outer Ratel Bank. Just before one o'clock, Commander Fraser was sent forward in the *Lochinvar*, with the *Lance* in company. As he was approaching the Ratel Bank he sighted a group of German destroyers to the eastward, and at once reported their presence (1.42 a.m.). Admiral Bacon decided not to reinforce him: he could only do so by depriving the bombarding squadron of its destroyers, when just off a German submarine base, and a reinforcement would, moreover, announce the presence of larger forces. Commander Fraser endeavoured twice to pass the German destroyers and steam into Ostend; but they were too numerous and he was compelled to turn back. Admiral Bacon was thus compelled to take up his bombarding position by dead reckoning. He was still some way to the westward with the bombarding squadron; and at about a quarter past two he intercepted a signal from Commodore Tyrwhitt ordering his destroyers to steer south-west. Some time after half-past two, as his squadron was approaching the firing point, he heard gunfire to the northward and realised that Commodore Tyrwhitt was engaged.

After reaching his station near the Thornton Bank at a quarter-past two, the Commodore started his patrol on a south-westerly course. Just after half-past two, when he was about half-way between the Bligh and Thornton Banks, he sighted two destroyers ahead. They were steering to the westward, and he took them at first to be part of Admiral Bacon's forces; but almost upon being sighted they opened fire, and at once came under a crushing concentration from the British light cruisers and destroyers. For a few minutes the Germans continued on their westerly course; but as they began to feel the effects of our fire they turned and made for Zeebrugge: one of the boats, *S 20*, was by then badly damaged and lagging behind. Commodore Tyrwhitt now ordered Commander Hodgson to pursue them with his division (*Taurus*, *Sharpshooter*, *Satyr*, *Torrent*), and resumed his patrol with the light cruisers and the remaining division. The *Undaunted* with the light cruisers on the Schouwen Bank sighted the firing but kept their station. The pursuing division sank the crippled destroyer and followed hard upon the other, but at three o'clock Commodore Tyrwhitt recalled them, as he had sighted more German destroyers to the south-

THE BOMBARDMENT OF OSTEND.

5th June, 1917.



ward and feared that Commander Hodgson might press in too close to the shore batteries. A few minutes later Admiral Bacon opened his bombardment of Ostend.

On receiving a signal from Commodore Tyrwhitt at a quarter to three, Admiral Bacon sent away the *Mentor* and *Miranda* to cut off the enemy's retreat into Zeebrugge: he anchored the squadron at about three, and the motor launches started the smoke screen. As daylight came up the shore was just visible and Admiral Bacon was able to correct his assumed position by a bearing of Ostend Cathedral. The bombardment began at twenty minutes past three and continued until four o'clock.

The enemy's batteries seem to have been better managed than at Zeebrugge; they replied to the bombardment only a few minutes after it began and kept up a steady and accurate fire upon the *Erebus* and *Terror* until they weighed. Fortunately the enemy's shells did no damage. At 4.20 the squadron was reformed for its return to Dover; Commodore Tyrwhitt, who had by then closed to about five miles, covered it from the northward.

The bombardment of Ostend differed from that of Zeebrugge in two particulars. Though the chance of doing irreparable or serious damage was slighter, the target was bigger; also, as Ostend was just visible from the sea, there was more chance of making accurate shooting. One hundred and fifteen shells were sent down, and of these about twenty exploded in or near the dockyard: the reports from our intelligence officers asserted that the workshops had not been much damaged, but that a lighter and a UC-boat had been sunk, and that three destroyers of the flotilla, which were lying alongside the quays, were damaged. Our intelligence reports also stated that the bombardment had caused very great anxiety, and had made the German Command doubt, very seriously, whether Ostend was suitable as a destroyer base at all. This was probably an exaggeration; but there can be little doubt that if Admiral Bacon had been able to repeat these operations at short intervals, the increasing material damage would very much have hampered and obstructed German operations from the Flanders bases. Unfortunately, the extraordinary difficulties of the operation made successive repetitions of it impossible. Admiral Bacon was anxious to follow up his first experiments and arranged for a series of further operations. They were constantly postponed because one or more of the conditions necessary to a successful bombardment was lacking; and when, months later, the bombardments were renewed, the Germans had had

plenty of time to make good the damage they had suffered and to strengthen their defences.

10

Convoy, June, 1917

Shortly after the Admiralty had decided to make the first experiments in convoying ocean traffic, a committee was appointed to study the whole question, and on June 6 they presented their report. It contained detailed proposals for the organisation of the necessary staff at the Admiralty and at the convoy assembly ports at home and abroad; for the equipment of merchant vessels, not already so provided, with the necessary signal apparatus and with voice pipes between bridge and engine-room, to facilitate manœuvring; and for the instructions to be given to the escorts, the commodore of each convoy, and the masters of the merchant ships. The actual programme of convoys suggested by the committee comprised eight homeward and eight outward convoys in every eight days.¹

For the homeward convoys the ports of assembly were to be New York, Hampton Roads, Dakar and Gibraltar. At *New York*, vessels from that port, Boston and Portland were to be collected, and these were to be joined at a sea rendezvous by steamers in the Canadian trade, originally assembled at Sydney, Cape Breton, in summer, or at Halifax in winter. *Hampton Roads* was to serve as the assembly port for all vessels homeward bound from Panama, the Gulf and Caribbean, as well as from United States Atlantic ports south of New York. *Dakar* would serve the whole trade of the South Atlantic—vessels from South America, South and West Africa, and ships homeward bound from Australia and the East. From *Gibraltar* the Mediterranean trade would come home in convoy.

From each of these ports two convoys were to come home every eight days. Those from New York, Hampton Roads and Gibraltar were to be composed alternatively of vessels bound for ports on the west coast of the United Kingdom and those bound to the east and south coasts or to the northern French ports. The Dakar convoy, owing to the very miscellaneous character of the trade it served, was

¹ The committee consisted of Captain H. W. Longden, Fleet-Paymaster Manisty, Commander J. S. Wilde, Lieutenant G. E. Burton and Mr. Norman Leslie. It was upon their recommendations that the whole administrative mechanism of the convoy system was eventually assembled.

to be a "mixed" convoy containing ships bound for either coast.

In all convoys Allied ships, and approved neutral vessels in Allied employment, were to be included, provided they fell within the speed limit of less than 12 and above $8\frac{1}{2}$ knots. Ships of twelve knots and upwards were left to take their chance in independent sailings, as the risk to such vessels was smaller, and the delays caused by including them would be very great. On the other hand, it was felt that lame ducks of less than about $8\frac{1}{2}$ knots speed could not be included in the ocean convoys without undue delay to other ships. An exception, however, was made in respect of the Gibraltar convoy, to which a minimum speed of only 7 knots was assigned, owing to the large number of old, slow vessels in the coal and ore traffic. The average size of each convoy was expected to be about twenty ships.

All North and South Atlantic convoys were to be escorted by a cruiser, or a heavily armed merchantman, from the port of assembly to a rendezvous outside the submarine danger zone. Here they were to be met by an escort of destroyers or other suitable vessels, who would bring them to a point of dispersal, whence the passage of the ships to their final port of destination would be protected by coastal escorts. For the Gibraltar convoy ocean escort would be provided by special service vessels, and "destroyer escort" would be necessary at both ends of the passage.¹

For the outward traffic four convoys were proposed, each sailing twice during the eight-day cycle. One would take out the North Atlantic trade from Liverpool and the Clyde; another the trade of the Bristol Channel to North and South Atlantic ports. A third convoy, with a southern port of assembly, would comprise all east coast ships bound for the Atlantic. Finally, a convoy for Gibraltar and the Mediterranean would sail every four days either from a southern or a western port.

As regards escort arrangements, the Gibraltar convoy was to be escorted the whole way by special service vessels, and both taken out and met by a "destroyer escort." The other convoys were to be taken clear of the submarine danger zone by a "destroyer escort," and accompanied for some distance further by a cruiser or "armed escort ship," being subsequently dispersed to their respective ports.

¹ The term "destroyer escort" was applied, both in the Report and in the subsequent actual organisation, to all danger zone escorts composed of destroyers, sloops, P-boats and similar craft.

This programme certainly involved a heavy strain upon the fleet. The committee proceeded upon the assumption that six vessels would be required for the "destroyer escort" of each outward and homeward convoy. To provide this, they considered that fourteen flotillas of six vessels each would be required, two based on Gibraltar, and three each on Lough Swilly, Queenstown, Portland and Plymouth, giving a total of 84 destroyers or similar craft, in addition to 52 cruisers or "armed escort ships" for ocean escort.

On the same day on which the Convoy Committee presented their report, the experimental convoy from Hampton Roads was duly met by the destroyer escort at the appointed rendezvous. This convoy, consisting of twelve merchant ships, under ocean escort of H.M.S. *Roxburgh* (Captain F. A. Whitehead, R.N.), had sailed on May 24 in three columns, Commander G. L. Massey, of the *Roxburgh*, acting as Commodore.¹ The speed was nine knots; but this proved to be too much for two of the slower steamers, and as they were unarmed, Captain Whitehead ordered them to proceed to Halifax for guns. With the remaining ten vessels in company, the *Roxburgh* sailed for the destroyer rendezvous, exercising the ships in zigzagging as opportunity offered. On the afternoon of June 4, the front was increased to five ships, by bringing up the rear ships of the wing columns, and on crossing the 20th meridian on June 5, at 11.55 p.m., the convoy began to zigzag as a whole. On the evening of the following day the danger zone escort was met, comprising eight destroyers from Devonport, and at 6 p.m. the *Roxburgh* shaped course for Plymouth, escorted by two of the destroyers, leaving the other six to bring on the convoy: aircraft and trawlers were also used for protection in the danger zone. All went well, and the west coast portion of the convoy was successfully dispersed off the Smalls on the night of June 8, the east coast portion being brought on to St. Helens. Although both fog and heavy weather were encountered on the passage, Captain Whitehead was able to report that "The convoy were attentive to signals, kept good station, and zigzagged in a satisfactory manner."

The complete success of the two experimental convoys decided the Admiralty to proceed with the scheme proposed by the Convoy Committee so far as the forces available for escort would permit. On June 8 the First Sea Lord, reporting to the Cabinet the voyages and arrival of the experimental

¹ The technical term for the officer second in command of a convoy, who would take command in case the C.O. should be disabled or unavailable.

convoys, stated that the convoy organisation was now nearly complete, and that the Admiralty hoped to start weekly convoys of oilers and provision ships in the immediate future. On the 14th he formally approved the report of the committee, the proposals of which were to be put into execution as the necessary forces became available.¹ It was also decided that, pending the introduction of a comprehensive scheme of ocean convoy, the protected sailings from Hampton Roads, so auspiciously begun, should continue for the purpose of giving protection to the oilers from North America.

Four such convoys actually sailed during June, with an average of about fifteen vessels in each; and their safe arrival combined with the success of the experimental convoys on the Gibraltar route, supplied a fairly conclusive answer to all who had doubted the success of the system on tactical grounds. The experience gained showed that a convoy had intrinsically great powers of evasion, in that it was almost impossible for a submarine commander to place himself right upon its track, at the right time of day, and in a good position for attacking it, when its course and time of arrival were completely unknown to him.² The great successes of the submarine commanders had hitherto been due to the immensity of their target: they had only to post themselves outside the patrolled routes somewhere between the Fastnets and Scillies, and they were practically certain to sight merchantmen if they waited for them. Some areas were better than others, but as the whole zone was traversed by merchant traffic it was in the German sense productive. The passage of these convoys through the danger area showed that, if the system could be developed and extended, it would alter the whole aspect of submarine warfare. The German submarine commanders would no longer be able to go to a fruitful area and there lie in wait: henceforward they would be compelled to seek out and attack groups of ships of whose movements they knew nothing—a very much more difficult task, and one which in many cases would be quite impossible.

The torpedoing of the *Wabasha* in one of the early convoys was an isolated incident; the facts as known went far to contradict the theory that a convoy if attacked would be exceptionally vulnerable. All the other ships in the same column had escaped, and the submarine had been quite unable to renew its attack.

¹ The committee had recommended that incoming and outgoing traffic should be convoyed: for the time being only incoming vessels were escorted. (See ante, p. 48.)

² See Map 13.

Meanwhile the Admiralty had come to several very important decisions. On June 15 it was ruled that the Hampton Roads convoys should be run at regular four-day intervals, for the east and west coasts alternately, as recommended by the committee, but that all requisitioned oilers, whatever their destination, should be sent on by the first convoy they could catch. A week later, on June 22, the Commander-in-Chief, North America, was informed that the convoy system was to be extended to Canadian ports. The Convoy Committee's suggestion for ships from the St. Lawrence to meet a New York convoy at sea was considered too risky because of the prevalence of fog, and a separate Canadian convoy was arranged from Sydney, Cape Breton, to sail every eight days, for the east and the west coast alternately. Captain James Turnbull, R.N.R., was sent out as Port Convoy officer, and pending his arrival the preparatory organisation was established and the convoys despatched by Captain Pasco, the senior officer at the port, the first convoy (*HS 1*) sailing on July 10 under escort of H.M.S. *Highflyer*. In the meantime the first regular four-day convoy (*HH 6*) had left Hampton Roads on July 2. This was the last "mixed" convoy from that port, the regular alternations of east and west coast sailings beginning on July 6 with *HH 7*, which was composed of west coast vessels and was brought in north-about by destroyers from Buncrana.

Ocean escort had now to be provided for eight Hampton Roads and four Sydney convoys every thirty-two days. The ships available for this purpose were drawn mainly from the North American and 10th Cruiser Squadrons. The responsibilities of the former had, of course, been considerably lightened by the entry of the United States into the war and the seizure of the German steamers in American harbours. The work of the 10th Cruiser Squadron had also been greatly reduced by the diminution in contraband traffic consequent on the intervention of the United States and on the series of agreements negotiated with the northern neutrals, so that it was now possible to withdraw several vessels from the northern patrol. The North American and West Indies Squadron had been joined during June by the *Highflyer* from Cruiser Force "D," and the *Cumberland*, which had been paid off for refitting. During July it was reinforced by the *Drake*, previously on detached service; the *Donegal* (from the 9th Cruiser Squadron) and the *Orama*, from the South-East Coast of America station. This brought up the total strength to thirteen cruising ships, of which, by the end of the month,

seven were actually employed in convoy service.¹ They were supplemented by four armed merchant cruisers detached from the 10th Cruiser Squadron,² and by the employment of "Commissioned Escort Ships," of which four were actually in service on July 31 and a fifth preparing to sail.³ These were merchant steamers with three or four 6-inch guns, so arranged as to give a broadside of three, and had been collected and equipped by the Admiralty, at the suggestion of the Anti-Submarine Division, during the period between the first adoption of the convoy system in principle and the date of applying it in practice. They carried cargo in the ordinary way; but in each was accommodated a retired flag officer, and, when in company with the convoy, they wore his flag and flew the White Ensign.

Destroyer escort for the convoys brought in south-about was provided by the destroyers of the 2nd and 4th Flotillas at Devonport. For the west coast convoys, coming in north-about, escort was provided from Buncrana. No regular flotilla was yet based on that port; but during June four destroyers were detached from the 14th Flotilla for this work, and in July four more were similarly detached from the 15th Flotilla.⁴ To supplement the destroyers, sloops were also used for the Buncrana escorts.

Meanwhile arrangements were being worked out for the proposed New York convoy. So early as July 4, Captain Keppel Wade, R.N., was instructed to confer with Commodore Wells at Hampton Roads, with a view to starting a convoy from New York, and on July 14, the first of the series (*HNI*) sailed from that port. By this time sufficient United States destroyers had arrived at Queenstown to enable them, supplemented when necessary by sloops, to undertake the

¹ North American and West Indies Squadron. Ships marked "C" on convoy service.

B. *Cæsar*
Cr. *Leviathan*
Carnarvon
Berwick C.
Roxburgh C.
Devonshire
Antrim C.
Drake C.
Donegal
Cumberland C.

L.Cr. *Isis C.*
Highflyer C.
A.M.C. *Calgarian*
Orama

² *Virginian*, *Almanzora*, *Kildonan Castle*, *Victorian*. *Victorian's* first convoy sailed August 2.

³ *Carrigan Head*, *Cambrian III* (later renamed *Bostonian*), *Knight Templar*, *Sachem*, *Discoverer*.

⁴ Both the 14th and 15th were Grand Fleet Flotillas.

duty of bringing in an *HN* convoy every eight days, and ocean escort was also provided by the American Navy, U.S.S. *Albany* being the first on this service. The earlier sailings of this convoy were "mixed," but from August 14 (*HN 5*) they were alternatively for the east and west coast, in order to synchronise with the outward convoys that had by then been established.

Thus, by the middle of July, four homeward convoys were sailing every eight days, two from Hampton Roads and one each from New York and Sydney. No convoy arrangements, however, had yet been made for the South Atlantic and Mediterranean trade, or for the outward traffic, and owing to the shortage of escort craft the Admiralty were not sanguine as to any wide extension of the system in the near future.

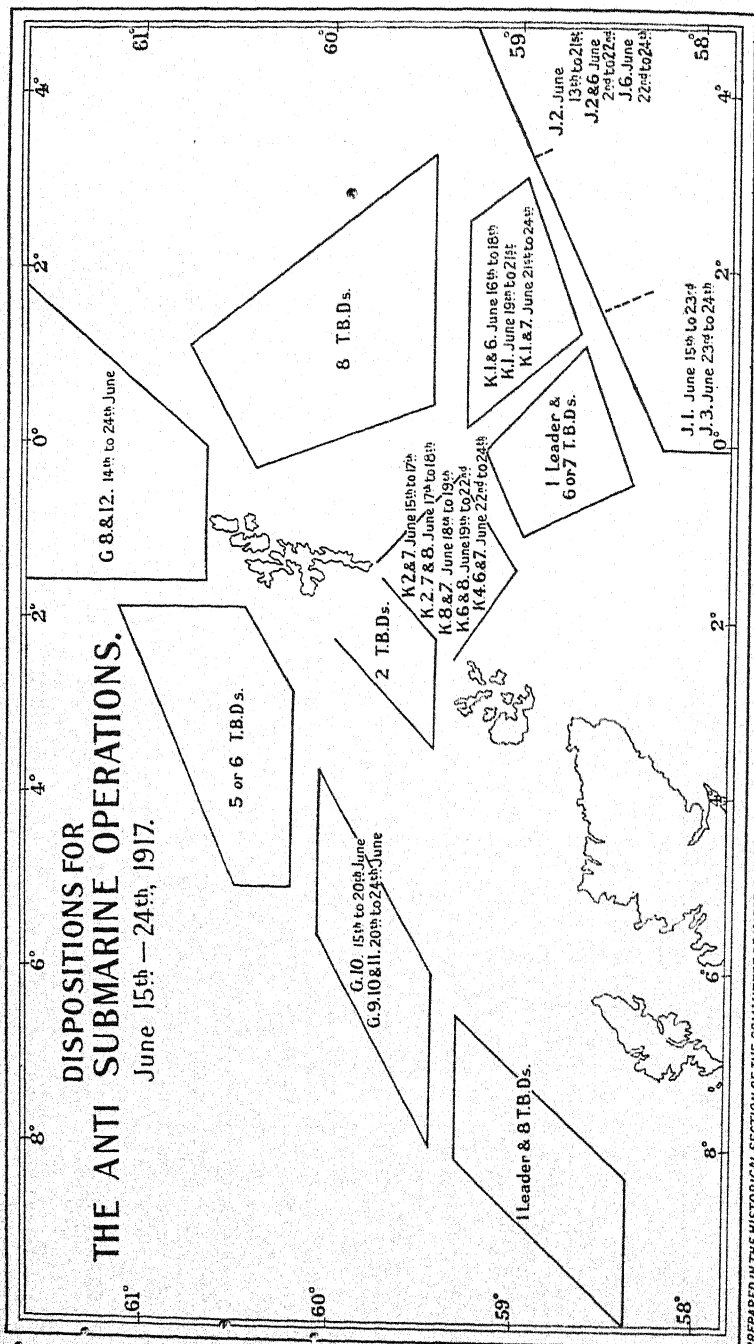
11

*The Submarine Campaign, June, 1917*¹

On June 18 the Commander-in-Chief under instructions from the Admiralty issued an order for what was perhaps the widest and most elaborate operation that had as yet been undertaken against the German submarines. The tracks which the larger U-boats followed were, by then, known with tolerable accuracy, and the object of the operation was to station British destroyers and submarines along the incoming route from the eastern approaches to the Pentland Firth, to the west of Stornoway. The forces employed were distributed over zones, into which the whole area of operations was divided. The operation was particularly designed to catch the incoming submarines. The first zone, to the west and north-west of Stornoway, was to be occupied by eight destroyers from the 12th Flotilla; to the north-east of this the second zone was watched by two or three submarines; the third zone by five or six destroyers of the 14th Flotilla. These three zones covered the home-coming track as far as the Shetlands. In the North Sea and the Pentland Firth, the probable route was divided into nine zones. The northernmost was occupied by two submarines, the one immediately abutting on it by eight destroyers of the 15th Flotilla; and the next one, in a south-easterly direction, by two submarines. Three more zones running in an east-north-easterly direction covered the southern side of the 15th Flotilla's zone, and were occupied by six submarines of the 11th Flotilla. The Fair Island channel was to be occupied by eight or nine destroyers, mostly taken from the 11th Flotilla, and by two submarines.

¹ See Map 1.





A leader from each of the destroyer flotillas was detailed to direct the operations of his destroyers from Stornoway (12th Flotilla), Swarbacks Minn (14th), Lerwick (15th) and Scapa (11th), and to arrange that one of the two divisions on patrol should be relieved at regular intervals.

On June 15 all the forces detailed for the operation were on their stations, and for nine days the dispositions were maintained. The results achieved only gave additional proof of the extraordinary difficulty of intercepting submarines, even when their routes were known. The outcome was that submarines were sighted sixty-one times by our forces on patrol, and attacked on twelve occasions. None of the attacks caused loss or damage, or affected submarine activities in the approach routes further south; for whilst the operation was in progress about six U-boats left the Fastnet area, and four relieving boats were located in it. The Commander-in-Chief Grand Fleet thought that the operation had justified itself in that it had "harried" all German submarines moving through the zones watched by our submarines and flotillas, and had saved the Lerwick-Bergen convoy from serious loss during the 21st, 22nd, and 23rd, when submarines were frequently sighted in the zone to the east of Lerwick. The flotilla commodore considered that the operation, though disappointing, might be repeated with a fair hope that it would yield better results if the zones to be watched were made smaller and more forces were allotted to each. The Admiralty, whilst admitting that the operation was disappointing in its results, agreed that it ought to be repeated as soon as possible in order to give it a fair trial. Many weeks went by before the experiment could be renewed; and meanwhile the officers in the western approach areas were struggling against an attack which, though it varied in intensity, suffered no serious check.

On June 18, Admiral Bayly left Ireland for a week's leave, and the Admiralty agreed that, during his absence, Admiral Sims should take command of the British and American naval forces. At the time, Queenstown was by far the most important of the local commands. Admiral Sims had under his orders, twenty-four American¹ and five British destroyers, the first sloop flotilla of seventeen units, a sweeping flotilla of eight sweepers and four torpedo boats, and ten Q-ships. Considerable as these forces were, they were insufficient to check the sinkings anywhere except in the coastal area. On June 18 the actual position was roughly as follows: nine

¹ The 5th American Destroyer Division, *Drayton, Jenkins, Patterson, Paulding, Trippe, Warrington*, arrived in Queenstown on June 1.

vessels were resting and refitting in harbour;¹ the four torpedo boats were employed every day in sweeping the approaches to Queenstown; the sweepers were divided between Berehaven and the salient points of the coastal route. Eight or nine vessels of all classes were spread along the coastal route between the Skelligs and the entrance to Queenstown: they kept it under constant patrol and escorted all incoming ships along the coast. The outer routes were, however, very insufficiently guarded. Three Q-ships were in harbour refitting, the remaining seven were cruising as best they could over the enormous area of water in which they had to operate. It was enclosed roughly by latitude 48° 30' and 53° N., and ran between the mouth of the Channel and longitude 17° W. Its total surface was at least 110,000 square miles.

One of the first requests made of Admiral Sims, after he had assumed command, was that he should detach destroyers to meet three troop convoy groups on June 23 and 25.² Admiral Sims knew that the authorities at Washington were very doubtful about the Admiralty's new policy; and he seized the opportunity of urging them to raise no further objections to the convoy system. He admitted, at once, that the call for destroyer escorts would reduce his forces so low that neither the inshore nor the approach patrol would be able to do its work, and he would shortly be unable to give any protection at all to the merchant traffic in his area. The only remedy was that the American Government should send across all possible destroyers and anti-submarine craft without delay, and so put every class of traffic, ocean and coastal, under convoy. "The success of the convoys so far brought in," he wrote, "shows that the system will defeat the submarines if applied generally, and in time. . . . The present campaign is not succeeding." This was a clear and unequivocal admission that the existing system of defence needed supplementing.

Although the American admiral was right in his main contention, he seems to have under-rated the amount of protection he was able to give to the inshore traffic of his command. Sinkings in the immediate approaches to the Fastnet were considerably reduced during the month of June. During the first fortnight, five vessels were sunk

¹ At Queenstown: *Adventure*, *Bluebell*, *Crocus*, *Heather* and *Laburnum*.
At Newport, Monmouthshire: *Parthian* and *Peyton*.
At Plymouth: *Laggan*.
At Buncrana: *Anchusa*.

² These were the first detachments of American troops sent to Europe.

within sixty miles of the coast, and only two during the second half. The coastal route along the south of Ireland also benefited by the arrival of the recent reinforcements. For the first half of June only three ships were lost between the Tuskar and Cape Clear. There was certainly a sharp renewal of activity in the second fortnight in the Dungarvan-Smalls-Tuskar triangle, but the zone was considerably more secure than it had been two months before, and the rising figure of unsuccessful attacks along the coastal route showed that this area at least was somewhat better defended. But the improvement was only local; for the German submarine commanders made good their set-back in this section of the approach area by a marked success in another.

One of the most important of the Atlantic routes for outgoing ships ran due west from Land's End as far as the 12th meridian; and it was crossed on longitude 10° W. by two other outgoing routes, used by vessels bound for the South Atlantic ports. As these routes were not followed closely like lanes, but were used with some freedom, there was always a considerable amount of traffic between the Melville and Shamrock Knolls and the 10th meridian. The German U-boat commanders may have discovered this by chance or by deliberate investigation; they certainly used their knowledge with good effect. On about the 8th of the month *U 70* was located in the area; she was relieved after five days by *U 82*; and for the last part of the month, two and sometimes three submarines held the area. As their theatre of operations was well out in the Atlantic, 120 miles from Land's End or Ushant, they were never disturbed by our patrolling forces, and, during the month, twenty-nine British and foreign ships were sunk in this zone alone. The only consoling point was that the sinkings in the Channel had fallen sharply. The number of UB- and UC-boats operating in the Channel was approximately the same as it had been in the previous month, and the number of unsuccessful attacks was not increased (twenty-six in May, twenty-seven in June). None the less the tonnage sunk in the Channel fell from 100,333 tons (May) to 32,000 (June). This was undoubtedly a positive achievement; but our offensive measures against the German submarines showed no improvement. Four submarines were sunk during the month; one by a chance collision with a steamship, another "from unknown causes," the third by a trawler, and the fourth in an encounter with the Q-ship *Pargust*.

During June the month's destruction of British tonnage had risen above the figures of the previous month, and the

total June losses, British, Allied and neutral, amounted to nearly 700,000. The total British losses since the outbreak of unrestricted warfare now amounted to nearly 2,000,000 tons, and the ocean-going tonnage under repair, mostly as the result of war casualties, had gone up from 130,000 tons on January 31 to 454,000 at the end of June. The convoy system had not yet had time to reduce the sinkings to a figure which was bearable; and the threat to our overseas supplies continued to overshadow every other problem of war.

12

Operations in the Flanders Bight, July, 1917

In April, when the German submarine commanders were sinking over 25,000 tons of shipping every day, the Admiralty received news that German mercantile shipping was showing signs of life after three years of complete inactivity. A small coasting trade had begun between the Bight and Rotterdam: the movement was no more than a little trickle from the huge stream which our naval forces had dammed up for so long; but it was disquieting to know that the dam was leaking. Control of the ocean highways, though generally described in terms of naval strength, operates through the rough guess-work of the shipping world. If shipowners, agents, marine insurance companies and exporters decide that the risk of capture is too great to be taken, a nation's merchant fleet ceases to move, and its enemy's command of the sea is absolute. This rough calculation of risk is not made upon precise strategical data; it is the rapid estimate of ordinary business men. Their conclusions are, generally, as good a summary of the position at sea as can be obtained. At moments of extreme crisis they may over-estimate the risks of capture. In August 1914 both British and German shipowners did so; but as a rule their judgment is sound and accurate; and this movement of German shipping between the Bight and the Hook might mean to the whole shipping world of enemy and neutral Europe that the net of British sea power had been strained to breaking point. Week by week the German Admiralty had scattered news over the whole world of how British shipping was being destroyed. Neutrals had waited for denials, but none had ever come; the British Government had spoken of exaggerations, but they had never faced the facts with a detailed answer. Ministers had been driven, indeed, to publish shipping returns of entries and sailings which misrepresented the real position; and when the

question had been raised, the decision had always been that the disguise must be kept up : the truth might cause a panic. The German authorities knew quite well that our shipping returns were being doctored, and they had made good use of their knowledge. Herr Helfferich and his colleagues were confident and were spreading their confidence to others; their shouts of approaching victory had raised a round of answering cheers from the shipping offices and the Chambers of Commerce at Hamburg, Bremerhaven and Emden; and after three years German shipping had begun to move in the North Sea.

It was a matter of importance to cut down this growing confidence. If the feeling spread to the merchantmen which had lain at anchor in neutral harbours since the war began, the Admiralty would be faced with a general movement of enemy shipping in every ocean of the world, at a time when our cruiser forces were being rapidly absorbed into the convoy organisation.

The new traffic movement was taking place in the Flanders Bight, and Commodore Tyrwhitt was directed to prepare plans for stopping it. Thinking that it would be unwise to keep a large intercepting force off the Dutch coast, he first attempted to stop the traffic by means of submarines. Four submarines of the "E" class were stationed along the coast of Holland between Egmond and Katwijk, and a force of destroyers was held in support well out of sight of land, about twenty miles due west of Ymuiden. The four submarine commanders were to stop all suspicious vessels and divert them to the position held by the destroyers, where they would be detained and captured. The first attempt was made on June 21 and was unsuccessful; one Dutch steamer, the *Boetan*, was stopped by *E 47* and then released. Nothing else was sighted, either by the submarines or the destroyers; but shortly after our forces had returned to harbour, the Admiralty received news from Holland that four German steamers had left Rotterdam on June 23, under the escort of a torpedo boat, and that others would follow. Commodore Tyrwhitt again ordered out four submarines and two divisions of destroyers. They reached their stations at four o'clock in the morning of the 25th, too late to intercept the vessels, which had sailed from Rotterdam on the 23rd, but in time for the ships which were reported as about to follow on their heels. None, however, was sighted : our destroyers and submarines held their stations all day, and returned after night had fallen with blank entries in the boarding books.

After this second failure Commodore Tyrwhitt decided to alter his plans. It seemed to him almost certain that the

enemy knew he was attempting to stop the traffic and that they would, in consequence, be exceptionally cautious. The enemy's most natural plan would be to arrange that their ships should sail from Rotterdam on the nights when the Dutch traffic to England was being escorted across the Flanders Bight by the Harwich destroyers. They would probably assume that on these occasions the bulk of the British forces would be employed elsewhere.

The Commodore laid his plans accordingly. His flotilla was now at full strength, and he arranged that a considerable force should be assembled and ready to act on those very nights when the enemy thought him most occupied. He had intended, at first, to divide his force into three divisions, and to allot a certain sector of the Dutch coast to each; but during the afternoon of July 15 he received news that German ships were leaving Rotterdam during the night; and being thus certain that he would be able to pick them up without dividing and dispersing his ships, he kept his force concentrated. He sailed at a quarter-past eight in the evening of July 15 with eight light cruisers, two flotilla leaders and fifteen destroyers, and at dawn on the 16th was fifteen miles to the westward of the Texel. He held this position until a quarter-past four, and then turned to the southward; as he did so he ordered the *Undaunted* and seven destroyers to take station three miles on his port beam to prevent the enemy merchantmen from passing between his force and the shore. A quarter of an hour later six merchantmen were sighted ahead: they were steaming together, in formation; two were ahead, the remaining four were grouped together astern. The *Undaunted* and her destroyers were at once ordered to chase and capture them, and as the German ships were unable to escape or resist, the business was over in a few minutes. Two steamers succeeded in running ashore but were completely disabled by gunfire, and by seven o'clock the remainder were on their way to Harwich under escort.

This rapid blow was just what was needed. The German merchants who lost their ships and cargoes could not know that in order to make his stroke as impressive as possible Commodore Tyrwhitt had deliberately collected a force which was many times more numerous and powerful than the military objects of the operation demanded. All they could tell was that a powerful light squadron had appeared off the Texel with apparently no duty but that of intercepting coasting vessels, when it had been suggested to them by their own people that every available British destroyer was being sucked into the maelstrom of submarine warfare. The effect was

decisive: two German vessels left Rotterdam during the week following the operation; after that movements practically ceased and the trade disappeared.

13 •

First German Doubts

Although our counter-measures against the submarine campaign were still quite indecisive, and although no one could say for certain whether our new plan of war would continue as well as it had begun, the struggle at sea between February and June had produced one positive result, of greater importance in its way than the sinking of U-boats. It had shaken the confidence with which the German military leaders had started the campaign. Holtzendorff's figures had persuaded them that unrestricted submarine warfare would bring Great Britain to final ruin in six months; they had proclaimed their belief to the whole German nation, and invited them to share it. Four months had now gone by, the estimated sinkings had been exceeded and yet Great Britain's resistance showed no signs of weakening. The German leaders could doubtless master their own disappointment; but they had to face the disappointment of the nation and its parliamentary representatives.

The Austrian Government was apparently the first to suggest doubts as to the result of the campaign. During March and April the Government at Berlin had been pressed by the Austrian Ballplatz to open peace negotiations. On April 14 the new Emperor Karl sent a letter of solemn warning to the Emperor William at Berlin. "We are now fighting against a new and more dangerous enemy than the Entente: social revolution. It is an enemy which finds the strongest possible ally in hunger." To this letter Count Czernin attached a memorandum which was sombre to the last degree. The Dual Monarchy must have peace before the summer was out, it could never stand another winter campaign. Revolution was brewing, the monarchy was in danger, and he had no doubt that Germany was in an equally bad condition. Admiral von Holtzendorff had most solemnly assured the Austrian Government that Great Britain would be unable to withstand six months of unrestricted U-boat warfare. The Austrian authorities had doubted, they had opposed a decision which they could not prevent, and now, after two and a half months of submarine warfare, they could see the unsoundness of Holtzendorff's calculations. "All the information we

receive about England combines to prove that a collapse of our most powerful and dangerous adversary is simply out of the question. Submarine war would damage but not ruin her; would it not, then, be better to abandon the idea that the campaign would be an instrument of final, decisive victory, and to make a serious effort to begin peace negotiations?"

Bethmann-Hollweg did not feel at liberty to admit Count Czernin's arguments, and answered that he "looked forward to a final decision from the U-boat warfare with the greatest confidence"; but when he discussed the question, a few weeks later, with Marshal von Hindenburg, no reason of State obliged him to disguise his real thoughts, and he uttered them candidly. By then the military leaders had realised that the submarine campaign would not bring Great Britain to her knees in the next month, as they had solemnly promised, and they wished to be saved from the awkward situation in which they had placed themselves. The wish was natural, but the method of giving effect to it was a doubtful one. Instead of calling a general council, and there admitting that their forecast of Great Britain's collapse and surrender had proved inaccurate, instead of consulting with the political leaders upon the best method of allaying the disappointment which would be widely felt in the nation and the parliament, the military leaders turned fiercely upon the Chancellor. On June 19 Hindenburg, who was probably here the tool of others, wrote a long letter to Bethmann-Hollweg, which contains the first admission of doubt. "I notice from newspaper and magazine articles of every kind that the hope of ending the war in the autumn is widely spread amongst the population at home. I see a grave danger in hopes which are thus linked with a particular date. I therefore consider it necessary to control these hopes and inform the Press of the true position." The true position, as Hindenburg now saw it, was that submarine warfare would certainly make Great Britain sue for peace, because the loss of freight would make it impossible for her to carry on her overseas trade *after the war was over*. This was not a candid admission of error; but it was an admission none the less. Great Britain's danger in June 1917 is not stated in the same terms as in February. She was then said to be moving towards an overwhelming disaster, and to have six months in which to live: she has now to consider whether her post-war position will not be unexpectedly disturbing if she goes on fighting.

At the end of June, then, both the civil and military leaders of the German Government had virtually admitted

that the submarine campaign was not giving the results which had been hoped for: the time was, however, approaching when an explanation would be demanded of them.

Herr Erzberger, a leading member of the Centre party, had never been fully persuaded by the arguments of Holtzendorff and his colleagues; but throughout the spring months he was satisfied that the military leaders at any rate were genuinely confident that the submarine campaign would end the war in July or August. Among influential Germans who had no connection with the Government he was one of the first to grasp that Hindenburg, Ludendorff and Holtzendorff were beginning to doubt their own calculations of victory. In the middle of June a conversation with Colonel Bauer, a member of Ludendorff's staff, showed him that the High Command were preparing for another winter's campaign. A few days later his growing suspicions were strengthened by an industrial magnate, who seems to have told Erzberger that he had received army orders for a period covering the following winter. Thoroughly suspicious, and anxious that the Admiralty staff should not impose upon the nation and the Reichstag, Erzberger now determined that the real facts of the submarine campaign should be openly discussed. His first move was to send a long critical paper to the Admiralty, and to ask them for a reply. His argument, which was supported by accurate and laboriously collected figures, may be summed up as follows. The consequences of the submarine campaign could not be assessed merely from the destruction of British and Allied shipping. The reduction in the total carrying power of all the maritime States of the world would in the end be the deciding factor. When the total world tonnage had fallen to such a figure that the proportion of the total usually employed in the trade of the Entente countries was below their minimum requirements, then, and not before, Germany's enemies would be completely defeated. Was this end in sight, as the Naval Staff had repeatedly asserted? Erzberger's own calculations were not reassuring. In 1914 there were 49,089,552 tons of shipping in the world; between 1914 and 1917, 8,561,285 tons would have been built and launched; and on a very sanguine estimate, 19,450,000 tons destroyed by submarines, mines and ordinary casualties of the sea. At the end of 1917 the world's carrying power would therefore be 38,200,837 tons;¹ practically 78 per cent. of the 1914 total. This loss of tonnage would certainly bring about a wide readjustment in the distribution of shipping throughout the

¹ i.e., 49,089,552 + 8,561,285 - 19,450,000 tons. The figures represent gross tonnage, and include sailing ships.

world; but the Entente Powers would still have about 30 million tons in their service. The Admiralty sent Erzberger a brief, perfunctory reply, and he decided to bring the matter before the Reichstag, which was due to meet on July 3. After consultation with various party leaders, he determined to make his criticism of the submarine campaign part of a larger issue and raise the question of peace by agreement.

Some Germans have held that Erzberger's attack upon the Admiralty and the Government of his day is a great political landmark in German history. Others have described it as a fatal stimulus to the forces of blind disruptive criticism and have attributed to it Germany's defeat in the field and the fall of the German monarchical system. Erzberger himself could never have been responsible for such a chain of calamities: they were the natural outcome of Germany's conduct of the submarine war; but the action he took at this critical time is, none the less, of great historical importance.

The Reichstag assembled on July 3; its first meetings were in committee, and were only reported in brief and carefully censored summaries. But laconic as those summaries were, they sufficed to warn the German people that serious discussions had begun. On several successive days Erzberger attacked the Government in a series of closely reasoned speeches. They had committed themselves, he said, to three statements: first, the political state of Europe was so troubled that a winter campaign was probable; secondly, the High Command was confident that the military front would not be broken; thirdly, victory was certain if unrestricted submarine war were continued. The first two statements were old, the third was of more recent date, and had just been revised in a most important particular. When first made, the nation had been told, in the clearest possible terms, that the unrestricted submarine campaign would end the war before harvest. From this statement the date had now been withdrawn, and the official declaration was simply that the submarines would end the war. When, and how? Erzberger again went through the arguments and figures which the naval staff had practically refused to discuss with him; and he invited the Reichstag to believe that even the present rate of tonnage destruction would not end the war in any calculable time. The nation had now to decide outright whether they would any longer allow themselves to be influenced by prophecies and forecasts which had been utterly disproved, and by undertakings which had never been carried out; whether they would still continue to strive for victory on the strength of assurances which should never have been

given them, or whether they would openly proclaim to the world that they were ready to discuss a peace without annexations or indemnities. The national representatives were now being asked to vote an enormous credit of 50 milliards for war expenses; the only inducement offered was, "hold out—a better peace will be obtained in the spring." But unfortunately there was not the slightest evidence that this was so: the enemy's war industries were increasing their output—a certain proof that the submarine campaign had failed: Germany was suffering progressively from lack of food, lack of fuel, lack of materials. No confidence could be placed in men who had so completely miscalculated the enemy's power of resistance. Even at the end of another year neutral and enemy tonnage would be sufficient to supply the Entente countries, where people were living with a degree of comfort that Germans had not enjoyed these eighteen months. The Reichstag must therefore adopt a peace policy of its own and force it upon the Government. Three times in 1870 Bismarck had attempted to open negotiations with the French: had he ever been accused of weakness, or of wavering, or of encouraging his enemies? Unless responsibility for continuing the war were to be laid for ever at Germany's door, her war aims must be placed before her enemies and before the whole world in a clear, acceptable form; and the Reichstag should itself take the lead in presenting them.

The effect produced by Erzberger's speech, and the further course of this momentous debate, are best described in the Chancellor's own words.

"The social democrats pressed forward the formula, 'No annexations or indemnities.' Their speakers painted the internal and external situation in the darkest colours. We were at the end: revolution was threatening. The submarines had not done what the Naval High Command had promised, and ought to be abandoned. Independent speakers went further, and said that revolution was at the door. The altered attitude of the middle-class parties was extraordinary. Overcome by the prevailing depression they opposed these views weakly, and without conviction, and, mainly for reasons of parliamentary tactics, abandoned the defence of the Government. The Secretaries of State, Doctor Helfferich and Admiral von Capelle, could not break down the general suggestion [of failure] with their statistical material."

The Chancellor was right; Erzberger's speeches on the submarine campaign were a rallying summons to every party leader who had ever criticised the Chancellor and the High Command and to every party that was distrustful of the

Government. Those who had always desired to advocate peace openly at last found their opportunity. If the submarine campaign was indecisive, why should the German Government delay further? After conferences between the Centre and Left, the party leaders placed a resolution upon the agenda of the committee, and Erzberger asked that a vote should be taken upon it. The resolution ran as follows :

“ The Reichstag declares :

“ On the eve of the fourth year of war the declaration made in the speech from the Throne—We are making no war of conquest—holds good for the German people just as it did on August 4, 1914. Germany took up arms for the defence of her freedom and independence, and for the integrity of her territories.

“ The Reichstag is striving for a peace of understanding, for a durable pacification of peoples. Forced annexation of provinces, and political, economic and financial oppression are incompatible with a peace of the kind.

“ The Reichstag repudiates all plans which aim at the economic division and the exasperation of nations after the war. The freedom of the seas must be assured. Economic peace alone can lay the basis for the peaceful intercourse of peoples.

“ The Reichstag will actively press forward the creation of international organisations [for the enforcement] of law.

“ Until the enemy Governments accept such a peace, Germany and her confederates will be threatened with annexations and acts of oppression, and the German people will stand together, as a man, will endure and fight on without wavering until they and their Allies have secured the right to life and development.

“ The united German people is unconquerable. The Reichstag declares itself to be at one with the men who are defending the Fatherland in this heroic struggle. They are assured of the undying gratitude of the German people.”

The Reichstag motion thoroughly roused the generals : Stein, the War Minister, had been present during Erzberger's first speeches and had watched their effect upon an audience which heard, for the first time, that the submarine campaign was not succeeding ; he was quick to see that if the Government gave countenance to the resolution they would be admitting the arguments that had supported it. He accordingly wired at once to Headquarters, to ask that the Emperor should be told, by the High Command, that “ it would be the greatest misfortune if the Chancellor gave any support to such a declaration.” Hindenburg answered immediately

in a telegram which contained the significant admission: "I have the heaviest misgivings with regard to such a declaration, as it can only increase the unrest which already exists in the army and be taken as a sign of internal weakness." Ludendorff's alarm drove him to disregard the most elementary principles of military duty: on July 12 he telegraphed to the Emperor that he would resign his post unless Bethmann-Hollweg were removed from the Chancellorship. The generals then made a resolute attempt to influence the parliamentary leaders. On July 13, Hindenburg and Ludendorff invited them to a conference, and lectured them. The old Marshal said a few words of welcome, after which General Ludendorff described the military situation in the well-known fashion: things were far better than they had been during the previous year, and the submarines would make it impossible for the Americans to transport their armies to Europe. But a peace resolution would animate Germany's enemies, who were already looking for signs of weakness, and would depress her army and her Allies.

Arguments like these were thrown away upon such a man as Erzberger, who had armed himself with a formidable mass of statistics; and upon Scheidemann, the social democrat, who knew how terribly the German masses were suffering. The latter answered on behalf of the Centre and Left, that hunger was spreading, and that the country would have a revolution if peace were not made in the autumn. "The thought of another winter's campaign is terribly hard to bear. . . . We must make it known that we are waging a defensive war, that we give our last drop of blood for our houses and our farmyards, but that pan-German war aims are not ours. Strategical frontiers are of no use to us . . . we must not protract the war by a desire for conquests and indemnities. If we speak openly in this fashion, we shall help towards the breakdown of our enemies." Erzberger then pressed Ludendorff with questions on the submarine war; he answered evasively, and in words which were quite inconsistent with his previous attitude. "Calculations about the submarine war cannot be based upon world tonnage. Even now everything is in favour of the war industries of our enemies. Submarine warfare cannot be measured by statistics, but by positive results—Salonica; wheat which cannot be brought over from Australia; shortage of timber in England; lack of coal in France and Italy; less munitions, and of a lower quality." Hindenburg, it seems, said practically nothing during this tirade, but he begged the deputies to put "a little more pepper" into their peace resolution.

Meanwhile Ludendorff's ultimatum demanding the Chancellor's resignation had been discussed by the Emperor and Bethmann-Hollweg at Bellevue. It angered the Kaiser that he should be spoken to in such a manner, and, for a moment, he was inclined to assert his authority. But Bethmann-Hollweg persuaded him to take a more diplomatic course: it was quite impossible to force or accept the resignation of two army leaders in whom the nation had unbounded confidence; but a change of Chancellors would do no harm. On July 14 Bethmann-Hollweg formally resigned his office, from the same sense of public duty that had animated him throughout his career. A few days later it was announced that Herr Michaelis, an Under-Secretary in the Ministry of Food, was appointed in his place. Not much is known of the new Chancellor; he only held office for a short time, and, after resigning, took no further part in public life. Erzberger speaks of him as a man of strong character, more sympathetic to the aims of the military party than his predecessor; so that, possibly, he was Ludendorff's nominee. His principal achievement, and it was no light one, was to get the peace resolution passed in such a way that it did not cause an open rupture between the Reichstag and the Government. This he did, partly by a verbal quibble, and partly by lobbying the parliamentary leaders. The resolution against annexations and indemnities was duly passed on July 19; the Chancellor accepted it in principle, but added the phrase "as I understand them" to the words about conquests and damages. Exactly a fortnight had gone by since the resolution had first been placed on the order of the day, and during the interval it would seem as though its authors had lost heart. At all events, the obvious reservation from the Chancellor did not lead to any further conflict, and the crisis passed.

None the less, far-sighted men realised that, sooner or later, the Reichstag would have to take its stand against the Government, possibly even against the Crown. On the day after the end of the crisis, the Emperor summoned the Reichstag leaders to a conference in which he went out of his way to renew their anxiety. They soon realised, from his way of talking, that he had been completely misinformed about the meaning and purpose of their resolution. He seemed hardly to have read the text of it. He congratulated them on advocating a "peace of adjustment" (which they had never done), and said that it fell in entirely with his own views. Adjustment, as he understood it, meant that Germany should receive gold, raw materials, wool, oil and coal from abroad and "move it from one of her pockets into another." After

that the Emperor described the political situation. England and America had come to an agreement in order to deal with Japan when the war was over, which Japan had countered by an agreement with Russia: the present war would probably not end with England's overthrow; but, when it was over, an alliance between Germany and France would pave the way to a "second Punic War" of the European continent against Great Britain. This was an extraordinary way of talking to men who had just passed a peace resolution; but when he spoke of internal affairs the Emperor was even more unguarded. As a special warning to the deputies of the Left, he told them that the soldiers of the Guard Division, led by his own son Fritz, had thrown the "republican dust round the Russians' ears": and added, "There is no democracy where the Guards appear." Finally, submarine war was so successful that his officers could no longer find ships to sink. When Erzberger tried to answer this wild talk with quotations from his statistics, the Emperor turned his back on him and continued. The Rumanians were to be punished by the diversion of the entire course of the Danube, from Trojan's gates to Czernawoda, so that the international commission would be sitting on the bed of a dried-up stream. Erzberger speaks thus of the whole proceeding. "This conversation between the Emperor and the deputies was not only as unfortunate as it could be: it was the turning of the first sod for the grave of the old *régime*. Grey-headed deputies, who up to then had not wished for a parliamentary system, openly said, on that night, that the existing form of government must bring disaster on the country."

The generals and admirals had thus in their turn tided over the crisis. They had escaped the worst that threatened them in that they had not been compelled to answer a charge of deceiving the German people about the results of the submarine campaign, and they had got rid of a Chancellor whose critical faculties had always galled and exasperated them. But their victory had been gained at great cost. Their clamour for strong government and unity of purpose had increased existing divisions, mistrusts and rivalries; and, worse than that, their political or semi-political manoeuvres had weakened the structure of imperial power which alone protected their extraordinary privileges, influence and immunity from criticism.

The Disorders in the German Fleet. July and August 1917

Although the new Chancellor had so far come through by adroit management and dubious backing, he could not stop the reverberations of Erzberger's resolution, which sounded all over Germany, and penetrated to the mess-tables of the High Seas Fleet. There they gave a sudden stimulus to ugly feelings that had long been rising. For months past the German seamen had felt that they were unjustly treated in the matter of food, and that, even if there were a national shortage, it was not right that there should be such an immense difference between the daily quantities of food allowed to the officers on the one hand and the men on the other. The grievance seems to have been well founded. If the statements of prisoners captured later are even approximately true, there can be no doubt that the German sailor's daily ration was now utterly insufficient, and it is not surprising that men fed on such poor and monotonous diet fell into a tired, nervous state in which grievances are apt to grow into a bitter sense of injustice and a desire for vengeance.

In addition to their grievances on the question of rations, the German seamen appear to have felt that their officers were treating them with undeserved harshness. It is not easy to understand why this feeling became so general; for there are no grounds for supposing that the ordinary German officer treated his men more harshly and discourteously in the summer of 1917 than he had done for many years past. The professional code of the German services has always been understood to insist on rigour as the first element of discipline. Authority must be obeyed and exerted at all times without any regard to the feelings of those concerned; and, in particular, courtesy and consideration towards inferiors are not qualities that an officer can admit into his practice, without weakening the military virtues which it must be his first consideration to cultivate. Such a theoretical inhumanity is in time of peace a barbarism to be borne only by a people which has not yet experienced a humane social life: in war it may be tolerated while success lasts, but in a long fight, and still more in a losing fight, it is likely to prove fatal. The officers of the High Seas Fleet were now to realise in the supreme hour of their country's danger that they had with them neither the trust nor the affection of their men.

On July 19 the crew of the *Prinzregent Luitpold* became

openly disobedient, and their conduct shows how little confidence they had in the justice or consideration of their commanders. Without attempting to petition for the redress of grievances, and without formulating any specific complaints, nearly half of the crew refused all duty and remained in their messes. They informed their officers that they had gone on hunger strike. Captain Hornhardt settled the disturbance, for the time being, by raising the bread ration to 100 grammes; but the trouble had only begun. On the following day, one hundred and forty men left the *Pillau* without leave; but this act of disobedience, gross and flagrant as it was, was carried out with great restraint. The men thought that leave had been wrongfully and harshly refused them, and so walked over the side. But when the period of leave which they considered was due to them had expired, they returned on board in a regular, orderly way, and continued to do their duty.

A few days later a sinister rumour put the whole fleet into wild excitement: Captain Thorbecke of the *König Albert* died suddenly and mysteriously; everybody believed that he had been killed by his own men. One story said that he had been thrown overboard, another that he was coming back to his ship one night and that, as he stepped from his launch on to the gangway, he was stabbed in the back. The truth behind these ugly stories was that Captain Thorbecke fell overboard accidentally and was drowned. The actual circumstances in which the accident occurred were apparently difficult to ascertain.

Nothing is better calculated to inflame angry men than a story of vengeance against an oppressor. A few days later, when the legend of Captain Thorbecke's murder had spread to every mess-table in the fleet, the discontent amongst the men again boiled over. On August 1 fresh disorders broke out in the *Prinzregent Luitpold*, and this time they were extremely serious. The ship was lying alongside the wharf at the time, and during the morning about fifty men marched over the side without leave. On their return eleven were arrested and the remaining forty allowed to go free; and this gave an additional stimulus to the discontent. Early on the following morning, four hundred men left the ship, and held a mass meeting in one of the suburbs, to protest against the punishment of their mates. The authorities were now seriously alarmed; the military were called in, a large number of men were placed under arrest, and a hundred of them were summarily and severely punished. But the disorders continued all next day, till in

the evening the ship was taken out into Schillig Roads and completely isolated from the rest of the fleet.

Still the outbreak was not quelled. A certain number of ratings from other ships had been arrested with the main body on the previous day, and on August 4 the infection spread to the *Kaiserin* and the *Friedrich der Grosse*. At dinner-time the men of the *Kaiserin* refused to send to the galley to get their food, and the watch below said flatly that they did not intend to relieve the watch on deck. The officers of the ship tried to open a parley, and went below to induce the men to state their complaints. The crew only complained specifically about the quality of the soup; but their criticism was so violent, their language so unsuitable to a conversation between officers and men, that the parley was broken off. Later in the afternoon the officers again went down to the mess-deck and promised that the diet should be improved. No attempt was made to persuade or force the crew to resume work, and, that night, the officers posted detachments of the men who had remained loyal outside their cabins. In the *Friedrich der Grosse* there were serious disturbances all day; the men refused duty and held a "free speech" meeting under the eyes of their officers.

On the following morning the men were showing a rather better temper; and in the evening the *Kaiserin*, *König Albert* and *Kaiser* were sent to Schillig Roads. From here they went on to Brunsbüttel, and, when they arrived, the officers made a genuine and sensible attempt to conciliate their men. Leave was given freely, games and concerts were organised, and better food was served out. The state of discipline in the *Prinzregent Luitpold* was apparently still so serious that it was not safe to allow her crew to mix with the crews of the other vessels.

This attempt at conciliation succeeded. The discontent did, it is true, break out again, some days later, in the *Westfalen* and the *Rheinland*; but the naval authorities managed to keep it under control, and by the end of the month the German fleet had again returned to its orderly disciplined habits.

Meanwhile, however, the high authorities had been making discoveries which seriously alarmed them. The officers of the battleships persuaded a certain number of men to gain the confidence of the mutineers, and, later, to inform against them. It was largely upon the intelligence supplied by these agents that the authorities identified the moving spirits among the disobedient seamen, and collected evidence for the courts-martial which followed the outburst. From these

secret informers, and from the investigations carried out by the lawyers employed to prosecute the ringleaders, the high authorities discovered, to their dismay, that the recent disorders were the symptoms of a serious and deep-seated malady. A handful of stokers, of whom the most intelligent and active were a man named Reichpietsch and another named Kürbis, had formed a regular political organisation for spreading peace propaganda on the lower decks of the battle fleet. They had kept nominal lists of all those men who agreed with them; they had been in touch with Herr Dittmann, one of the deputies of the Independent Socialist party, and had made elaborate arrangements for distributing the political literature of the party among their comrades. The rallying-cry of the movement was "peace without annexations or indemnities"—a simplified form of the Reichstag resolution which a few weeks before had provoked such strenuous opposition from the admirals and the generals. Holtzendorff's bitterest enemies had thus gained an entry into the battle line of the German navy.

It would, of course, be the merest exaggeration to treat the disorders in the *Prinzregent Luitpold* and the other battleships as though they were solely the outcome of the Reichstag resolution; trouble had been brewing in the fleet for many months before Erzberger spoke. Still less would it be fair to say—as an ingenious German controversialist has done—that the irresponsible speeches of the admirals were the animating cause of the seamen's disobedience. Nevertheless, it is quite impossible to dissociate this breakdown in the most rigorously disciplined fleet in the world from the promises which the admirals had so freely scattered before the German nation some months before. Beneath the shouting of the seamen who broke ashore, the jeering and whistling of the men who refused to receive their rations, the wild talk of the stokers who held free speech meetings in the *Friedrich der Grosse*, there is evident a deeper and more estranging resentment, the bitter anger of brave men, who had at last realised the true nature of the policy for which they and their people were now called upon to endure starvation.

CHAPTER II

THE MEDITERRANEAN. AUGUST 1917 TO APRIL 1918

WHEN Vice-Admiral Sir S. A. Gough-Calthorpe took up his appointment in the Mediterranean in August 1917, the outlook was dark and sombre. The German submarine commanders were not, it is true, sinking as much shipping as they had done in April; but the statistics of the campaign justified the most gloomy forebodings. No German submarine had been sunk since May, and the daily sinkings varied almost in direct proportion to the number of U-boats on cruise. The complex of defensive measures, which had been devised by the staffs of three navies, never seemed to reduce the average daily destruction of each operating submarine. It is true that shipping was relatively safe in certain parts of the Mediterranean. German submarine commanders rarely visited the route along the eastern coast of Spain; and the Italians had organised a defensive system along their western coast-line which gave all shipping inside it considerable immunity from attack. But these were strips or ribbons of water in a great inland sea, traversed both laterally and longitudinally by the commerce of many nations; and even though Spain's neutrality, and the Italian coast defence, deprived the enemy of opportunities for destroying shipping in two small zones, his opportunities for depredations elsewhere were so good that he hardly felt the restriction.

Admiral Calthorpe's plans for improving matters seemed, moreover, to be beset with difficulties. He, personally, believed that our losses could only be substantially reduced by concentrating an offensive force at whatever point German submarines were most likely to be found, and harrying them with every means at his disposal. No zone was more suitable than the Straits of Otranto, through which so large a proportion of the German submarines were compelled to pass, twice every cruise. But the hopes of prosecuting a concentrated offensive in this narrow channel were small. The operation could only be undertaken if the Italian and

French Admiralties were prepared to make unsparing use of their destroyers and small craft, and although the French authorities might be persuaded to make a generous allocation of destroyers to an offensive force in the Otranto Straits, it was practically certain that the Italian High Command would not agree to change their established policy. They had, on several occasions, refused to maintain a permanent destroyer patrol to guard the mobile barrage of drift nets and trawlers which we had stationed in the Straits. More than that, they had practically withdrawn the barrage forces.¹

Fortunately, however, opinions were not divided about the major strategy of the campaign which Admiral Calthorpe was to conduct, and this was perhaps the only alleviation to his difficulties. The Conference of Allied naval authorities held in London during the first week in September decided, unanimously, that commercial traffic in the Mediterranean should be placed in convoy, as far as possible. Before Admiral Calthorpe left London, his staff made a careful analysis of shipping and traffic statistics in the Mediterranean. They decided that escort must be provided along nine routes, and estimated that the total number of escorting units required would be about 300.² When this decision was reached, convoys were running only between Malta and Egypt and between Gibraltar and Oran. To give effect to the findings of the Conference was therefore a task of the first magnitude. An important preliminary step had certainly been taken. The traffic of the nations which do the carrying trade in the Mediterranean could only be controlled by an inter-Allied Committee, on which all the Allies were represented. This Committee had already been created;³ Admiral Calthorpe was the Chairman; his colleagues were Admirals Fergusson, Ratyé, Salazar and Sato. The Committee was an inter-Allied executive, the only body which by its constitution and authority could undertake a great reorganisation of the existing arrangements for controlling and routing commercial traffic in the Mediterranean. In addition to this, the forces available for the defence of trade had to be redistributed from one end of the Mediterranean to the other;

¹ From June to July 24 the barrage forces had only been at sea for one day; they had not been to sea at all between July 24 and August 19.

² Traffic was to run in convoys between (i) Gibraltar and Genoa, (ii) Gibraltar and Bizerta, (iii) Bizerta and Port Said, (iv) Marseilles and Bizerta, (v) Marseilles and Algiers, (vi) Malta and Suda Bay, (vii) Naples and Bizerta, (viii) Malta and Taranto, (ix) Oran and Gibraltar. The convoy base at Suda Bay was to be transferred to Milo.

³ It was styled officially the Commission de Malte.

and the responsibility for particular convoys divided between the French, British and Italian commands.

Until Admiral Calthorpe had completed his preparations for introducing the Mediterranean convoy system, he was obviously unable to proceed with his plan of organising a continuous attack against submarines in the Straits of Otranto; and, indeed, for many weeks after he had taken up his new appointment, his time was almost entirely employed in devising a redistribution of the patrol and destroyer forces within the limits of his command. He gave some slight reinforcement to the patrol forces outside the Straits, in the hope of reducing sinkings in the western approaches to Gibraltar; but that, for the time being, was all that he was able to do.

Meanwhile the Admiralty had decided to run convoys, at intervals of ten days, between England and Port Said. These convoys were not to be part of the general system for which Admiral Calthorpe was making preparations; the Convoy Section at Whitehall was responsible for them. But it was stipulated that whilst these convoys were inside the danger zone off Gibraltar, all available local forces were to reinforce the escort. Rear-Admiral J. A. Fergusson,¹ whom the British Commander-in-Chief had recently instructed to control the convoy organisation, urged that the arrivals of these "through" convoys—that was the name given to them—should be made to synchronise with the departures of the home-bound Gibraltar convoys, in order that the local escorts should be employed as economically as possible. Even with this economy, however, it was largely owing to the American reinforcements at Gibraltar that the local command was able to meet the calls being made upon it. There were now at Gibraltar, the light cruisers *Birmingham* and *Chester*; the gunboats *Sacramento*, *Nashville*, *Machias*, *Cas-tine*; the revenue cutters *Ossipee*, *Seneca*, *Manning*, *Yama-craw* and *Marietta*; the yachts *Yankton* and *Nahma*. The Admiralty agreed to Admiral Fergusson's proposal, and on October 3 the first of these convoys left England.²

The provision of local escort for these through convoys, though highly necessary, could only have the effect of depleting still further the forces which Admiral Calthorpe desired to assemble for his projected offensive. It was, therefore,

¹ Appointed British Admiral of Patrols, Mediterranean, September 3, 1917.

² It suffered a loss of two ships, out of a total of eleven, sunk off Alexandria. This was discouraging but misleading. For the percentage of losses in the through Mediterranean convoys see post, p. 94.

a great relief to him when a much-needed reinforcement enabled him to keep the mobile barrage, in the Straits of Otranto, at sea. Early in October, six Australian destroyers arrived in the Mediterranean; they were at once allocated to Brindisi, and on the eleventh of the month the drifters and auxiliaries returned to their old duties in the Straits.

But the restoration of the mobile barrage was, for the moment, no more than an act of vigilance, or a preparation for more comprehensive measures. Sinkings continued without intermission, the number of ships destroyed rose when the number of operating submarines rose, and fell when, for some reason or another, fewer U-boats could put to sea. Nor were the enemy's numbers reduced by our offensive: the German submarine commanders continued to enjoy an immunity from danger which was distressing evidence that the attack had still the better of the defence.¹

And now, during the last days of the month, the course of events on land threatened to increase the difficulties of the campaign at sea, by creating a new and pressing demand for reinforcements in the northern Adriatic. On October 24, the Austrian armies attacked the Italian positions in the Julian Alps; one of the Italian armies opposed to them was completely defeated and fell back in great disorder. The Italians were in full retreat towards the Piave when the month came to an end; and their High Command was extremely anxious lest the Austrians should attempt to turn their right flank from the sea, by armies landing under the support of the Pola Fleet. It was absolutely beyond our power to supply the destroyer reinforcements which the Italians demanded, although we agreed, without demur, that the *Queen's* 12-inch guns should be dismounted and used as heavy artillery on the land front.

In another theatre the naval forces were better able to meet the calls which the military authorities made upon them. At this juncture General Allenby was completing his preparations for an attack upon the Turkish armies opposed to him. The Turkish forces occupied a line which ran for about thirty miles south-eastward of Gaza; the British lay between Deir el Belah and Ramli. General Allenby's plan was to storm Beersheba, on the eastern flank of the Turkish position, and to follow up with successive attacks upon the Turkish centre, and upon Gaza. He particularly desired that the naval forces available should make feint landings

¹ See Appendix C—Submarine Warfare in the Mediterranean, Sept. 1917 to Sept. 1918, and Map 2.

to the north of Gaza when he launched his first assault upon Beersheba; for he hoped that they might thus hold troops which could otherwise be sent eastward, to the right flank of the Turkish armies. The British naval forces had co-operated in the unsuccessful assaults upon the Gaza position, in the spring of the year; and Rear-Admiral Thomas Jackson, the Senior Naval Officer, Egypt, whom General Allenby consulted, was ready to begin the operation on October 30, the day before the assault on Beersheba began.

Just behind Gaza there is a ridge of low hills which restricts the view from the sea, and leaves little visible but a narrow strip of the maritime plain. But about eight miles north of the town, the River Hesi has cut a small cleft through the hills, and from a ship off the river mouth the railway station of Deir Sineid, and the road bridge over the river can be seen. The land meets the sky along the jagged outline of the Judæan mountains.¹

At 10.30 a.m., October 30, two small monitors, *M 31* and *M 32*, opened fire on trenches and wire north-west of Gaza,² and on a beach position called Sheikh Hassan. A quarter of an hour later the *Grafton*, carrying Admiral Jackson's flag, began searching with her guns for an observation tower known to be due north of Gaza concealed among trees.

Still further north, off the mouth of the Hesi, the large monitor *Raglan*³ took up position for bombarding Deir Sineid railway station. She was joined there by the seaplane carrier *City of Oxford*, guarded by the destroyers *Comet* and *Staunch*. The *Raglan* had a seaplane on board, stowed above the 14-inch gun; this was hoisted out to spot the fall of her shot, and before noon the observer reported a series of explosions at the railway station, presumably the destruction of an ammunition dump. The target was then shifted to the railway bridge, and there also some hits were seen. The enemy's resistance was limited to a few rounds fired at a couple of trawlers which were sweeping a passage towards the shore for the *Raglan*, and some machine gunfire from an aeroplane which was driven off by our high-angle guns. In the afternoon firing the *Raglan* used a seaplane from the *City of Oxford*. At nightfall the seaplane carrier retired to seaward; but the *Raglan* remained to fire a few shots up the valley to keep the Turks on the alert.

¹ See Map 3.

² *M 31*, Commander Cecil J. Crocker; *M 32*, Lieutenant-Commander R. Hunt. Both monitors carried two 6-inch guns; their displacement was 355 tons, and their maximum speed 10 knots.

³ *Raglan*, Commander Viscount Broome, 6150 tons; 6 to 7 knots speed; main armament two 14-inch, one 6-inch guns.

During the attack on Beersheba on October 31, which was successful, the diversion on the Gaza flank was continued. The *Raglan* was relieved in the afternoon by the French auxiliary vessel *Maroc*, which fired a few rounds up the Hesi valley while the monitor returned to Deir el Belah to attend to her guns and replenish her ammunition. In the twilight before sunrise the *Grafton* fired on the trenches north-west of Gaza; but when the sun rose over the Judæan hills the horizontal glare obscured the targets and firing had to cease until four hours later wire entanglements could again be clearly seen. The enemy now had the range of the *Grafton* and forced her to take up a new position, which she held till darkness fell and she retired to sea. Three small monitors bombarded from the southern position.

So far, the enemy had made no great efforts to deal with the bombardment from the sea; but during the day it was reported from the direction-finding stations at Alexandria and Port Said that two submarines were on the Palestine coast. Nothing was seen of either submarine though the patrol vessels kept a specially sharp look-out.

The simulated landing took place on November 1, when the attack on Gaza began on shore. The bombarding station off the Hesi was taken by the French coast defence vessel *Requin*. She anchored just within range of the Turkish guns and was twice hit; one shell exploded on the mess deck and caused considerable loss of life. At Deir el Belah a party of the Egyptian Labour Corps were marched down to the beach within full view of the Turks on the heights above Gaza, and there embarked in a fleet of small craft specially brought up from Port Said. As the light waned the party in the boats moved off northward as if to be landed north of Gaza; but as soon as it was dark they returned to Deir el Belah and quietly went ashore again, though, to keep up the illusion, a procession of small vessels showing lights occasionally steamed northward past Gaza. The *Grafton* and two little river gunboats cruised off the Hesi to prevent any Turkish reserves from crossing it.

That night Sheikh Hassan was captured. The naval bombardment was henceforward directed only against targets north of Deir Sineid, since it was impossible to distinguish British from Turkish troops from the firing ships. During November 2 the *Grafton*, *Raglan*, *Maroc* and *Requin* kept Hesi station continuously under fire. The old French battleship expended all her ammunition, and sailed at 11.0 p.m.; as she steamed off she was loudly cheered by the rest of the little squadron.

The weather, which had so far been calm, now began

to change and the wind rose. The motor launches and river gunboats, which had been assisting the operations as auxiliaries, had to be sent to Port Said for shelter. They were absent only a day; when on November 4 the wind died down, they came back and the river gunboats opened fire on the observation tower, which was still standing. One of the gunboats, *Aphis*, was nearly hit by a shell when 12,000 yards from the shore, the longest range over the water obtained by the Turkish guns.

The firing from the sea was maintained for the next two days; the two French destroyers, *Fauconneau* and *Hache*, relieved the *Comet* and *Staunch* for a time, and the monitors *M 15* and *M 29* joined in. The *Requin* returned to her station, whereupon the *Grafton* went back to Port Said for coal and ammunition; and Admiral Jackson shifted his flag to the *Enterprise*. Before dawn on November 7 the army ashore signalled that the Turks were evacuating Gaza and asked for a bombardment of all railways and roads they might be using in their retreat. As soon, therefore, as there was enough light three monitors and the two river gunboats fired up the Hesi valley at the retreating Turks, over the heads of the British infantry, who were tramping along the sandy shore. At noon our line was so well advanced that it was clear Deir Sineid would soon fall. Our naval force moved northward: *M 15* to a spot from which Julis station could be shelled, the *Requin* and French destroyers to Askalon. So thorough was the success, and Gaza so unmistakably ours, that on the 9th the troops crossed the Hesi valley and passed for the moment beyond the reach of assistance from the sea. General Allenby hoped to attack Jaffa on the 13th, and as he would then require a naval demonstration, all the ships withdrew to Deir el Belah for a rest.

It is impossible to say how far these naval bombardments assisted General Allenby's brilliant operations, nor do we know whether the Turks were deceived by the simulated landing behind Gaza. But co-operation with the land armies was certainly costly. Soon after the operations began, Lieutenant Hans Wendlandt, who was then cruising in the southern Ægean in *UC 38*, received orders from Nauen to go to the coast of Palestine, and operate against British transports between Askalon and Jaffa. He did not at once obey, but reached the coast off Gaza on November 10. After keeping periscope watch all that day and most of the next, he discovered that a mass of ships were anchored off Deir el Belah, and that their anchorage was protected by a net which ran parallel to the shore and was distant two miles from it. The gaps between the ends of the net and the shore were patrolled by

trawlers and drifters. At about sunset on November 11, Hans Wendlandt took his submarine through the gap, and torpedoed the *Staunch* and monitor *M 15*. In addition to the torpedoed ships, three French destroyers, the *Comet* and the *Enterprise* were lying at the anchorage, and a group of transports were off the mouth of the Hesi. Admiral Jackson, who was in the *Enterprise* at the time, sent the trawlers and French destroyers to protect the transports, and withdrew the remainder of the squadron to Port Said. After the disaster the naval forces continued to protect the lines of supply which ran from Egypt to anchorages on the army's left flank, but active naval participation in the campaign ceased.

By this time, Admiral Calthorpe had completed his preparations for introducing a general convoy system on the lines laid down by the Allied Conference in September, and towards the end of November he reported on the first results of the new system of defence.¹ Convoys under British escort were running between Gibraltar and Oran, Bizerta and Alexandria, Alexandria and Port Said, Bizerta and Milo. The French authorities were solely responsible for the traffic between Marseilles and Algiers and Marseilles and Bizerta. The convoys between Milo and Salonica, and Milo and Alexandria were under a joint Franco-British control. For the time being, no convoys were being run between Gibraltar and Genoa, as the Italians preferred that ships bound to their ports should follow the Spanish coastal route. Ships were also running free between Naples and Bizerta, because the Italians preferred that ships should hug the western coast of Italy and the northern coast of Sicily, and keep within the area protected by their coastal defences. Admiral Calthorpe freely admitted that the Italian local defences and control of traffic had been prepared with the most meticulous care and worked with great precision. He none the less regretted that such a system had ever been instituted; it absorbed the services of 11,000 men and of a large number of auxiliaries which he would have liked to see allocated to the striking force that he was still collecting. But he had to admit that shipping within the Italian coastal zone was relatively immune from attack, and that he ordered ships which could not be escorted to use it freely. Admiral Calthorpe was, moreover, very sceptical about the efficiency of the convoy system as a measure of defence, and doubted

¹ The American forces at Gibraltar had by now been increased by five small destroyers of 240 tons, the *Chauncey*, *Bainbridge*, *Barry*, *Dale* and *Decatur*; by the revenue cutter *Tampa* and the gunboat *Paducah*. These forces were mainly employed as convoy escorts.

whether it would reduce losses materially; "the system of the protection of merchant shipping by sailing them in convoys," he wrote, "is, at the best, a deterrent and not a reliable safeguard . . . this applies particularly to the Mediterranean . . . where the comparatively restricted areas through which shipping must pass to reach their destinations are all in favour of the enemy. Hence it appears that the measure of protection afforded by this system is bound to become less as the enemy gains in skill and experience, and that the true solution is to be found in an increased and unceasing offensive, which should, in time, enable us to dispense altogether with the need for these methods of defence." These were the Commander-in-Chief's personal views: the statistics of convoy losses did not altogether support them. Sinkings in the through homeward convoys had certainly been severe during the month and had raised the total percentage of loss; but even with this addition the statistics were in favour of the system. Three hundred and eighty-one vessels had been run in convoy during the month, and only nine of them had been lost. These figures proved that the system gave a real chance of escaping danger. The number of unescorted ships was, moreover, still very high; about forty per cent. of the total traffic had been placed under escort during the month. The system was therefore still capable of great expansion, and, if made more embracing, would, presumably, raise the number of ships which escaped attack. This was the logical inference of the figures then available. The task before the naval authorities was not, however, confined to making the system more embracing. Admiral Calthorpe's staff estimated that the defence of shipping would not have mastered the attack until losses in convoy were reduced to below one per cent. of the ships escorted. To increase the efficiency of the system itself, quite independently of its comprehensiveness, was the pressing and urgent problem.

Meanwhile the first experiments in constructing a permanent barrage across the Straits of Otranto had been carried out, and were very discouraging. Two and a half miles of a barrage laid early in the month were inspected on November 27; the obstruction was found to have broken into three parts; the nets beneath it were hopelessly entangled and knotted. Some of this destruction may have been done by *U 47*, which ran into the net whilst it was in position, and returned to Cattaro to report its existence. This, however, was not known at the time, and the conclusion that the authorities formed, that the net had been broken up by winds and tides, was substantially correct. The material

was removed, and the attempt to place a fixed obstacle across the Straits of Otranto was not renewed for many weeks.

The prospect during the last months of the year was still bleak and cheerless. The only relief to it was, perhaps, that the Italian armies brought the Austrians to a standstill on the Piave during November, and that the menace of a sortie by the Austrian fleet came to nothing. Indeed the Italians reasserted their naval domination of the northern Adriatic by an act of extraordinary daring. During the night of December 9, Lieutenant Rizzo penetrated into Trieste in a picket boat and torpedoed the old battleship *Wien*.

This seemed to restore the old position in the Adriatic. But, although the Allied naval authorities could not know it, they were really exchanging one danger for another. The new German Commander-in-Chief at Constantinople, Vice-Admiral von Rebeur-Paschwitz, had now decided to attack our naval forces and transports with the *Goeben* and *Breslau*.¹ Enver Pasha had approved the project and the German ships were only held back by lack of coal. This, however, was a threat of which we were still unconscious. The visible and obvious menace of the submarine campaign was under no disguise; indeed it was less a menace than a pressing danger. Sixty-four merchantmen, representing a total tonnage of 176,767, were sunk or damaged during the last month of the year; and the counter-attack upon the U-boats was still quite ineffective. On December 14, *UC 38*, which had operated off the coast of Palestine a month before, was sunk by the destroyers escorting the French cruiser *Châteaurenault*; but, as the French cruiser was torpedoed and sunk before *UC 38* was destroyed, as this was the only submarine sunk since May 24, and as only two submarines were destroyed in the Mediterranean during the course of the year, the incident was not encouraging. It served only to indicate that if a German submarine commander took exceptional risks, his U-boat might be destroyed at exceptional cost.²

One of the few reassuring facts of the position was that the troop transports, which were, in a sense, the military communications of the Mediterranean, were being moved with considerably less risk. The Japanese destroyers generally acted as escorts to the troopships. No more fitting duty could have been assigned to them. It stirred their military pride to be made the guardians of the Allied troops at sea;

¹ See Admiral Hermann Lorey, *Der Krieg zur-See: Die Mittelmeer Division*, p. 330.

² See Map 2.

and they considered it a point of honour to meet every call that was made upon them.¹ It had always been realised, however, that if the enemy ever decided to attack the purely military communications of the Mediterranean, he would probably do so with surface craft rather than by a special concentration of U-boats. And as it so happened he was nearly ready to do so. The *Breslau* had already filled her bunkers, the *Goeben's* coal supplies were being taken on board as fast as the crew could manage; the destroyers *Muavenet*, *Basra*, *Numune* and *Samsun* were ready for sea.

It had, of course, been realised for long that the *Goeben* and *Breslau* might make a sortie into the *Ægean*; but Admiral S. R. Fremantle had always been confident that the enemy would not be able to conceal his intention.² The minefields at the entrance were a formidable obstacle, and it seemed almost certain that the enemy would not attempt to leave the Dardanelles until they had located those which lay across their track. This could only be done by sweeping operations, which, to be effective, would have to be carried out for ten miles beyond Sedd el Bahr.

As it seemed inconceivable that the enemy could ever carry out such a big sweeping operation undetected, the orders which Admiral Fremantle had issued to his scattered forces were all based on the assumption that a fairly long warning would be given. None the less, whether the warning were long or short, it was taken for granted that the forces in any one particular zone would be more or less helpless if the *Goeben* raided the patrol area allotted to them. The monitors, light cruisers, and sloops which were spread over the *Ægean* would all be defenceless against the *Goeben's* guns; and all that Admiral Fremantle felt able to do was to warn them in his general orders that, if the *Goeben* ever did break out, they ought to lead her "in a direction in which support may be obtained" rather than "attack her regardless of consequences." This very sensible caution was, however, somewhat weakened by the wording of the general signal which was to be made if the *Goeben* were known to be out. The signal ran: "Take all necessary action to engage the enemy," and this was an order which British naval officers could only interpret in one way.

The orders were, however, drafted upon a further general assumption about the enemy's intentions. Admiral Fre-

¹ The British naval staff estimated that the Japanese destroyers spent 72 per cent. of their total time at sea, the British destroyers 60 per cent., and the French and Italian about 45 per cent.

² Admiral Fremantle was appointed Commander of the British *Ægean* Squadron, August 13, 1917.

mantle was persuaded that, if the *Goeben* left the Dardanelles, it would probably be to join the Austrians in the Adriatic. In all probability, therefore, she would attack and destroy only those forces which came within range of her guns as she steamed out of the Ægean at high speed. A prolonged attack upon our patrol forces did not seem likely. Indeed Admiral Fremantle spoke of a naval attack against the British bases as a "desperate venture, which could only end in the eventual destruction of the enemy, and is conceivable only as a last resort which might be decided upon in the event of Turkey deciding upon a separate peace."

It is therefore somewhat remarkable that the enemy should have preferred this project to all others. The operation orders issued to the squadron did not, it is true, make provision for prolonged attack against the British bases; for in them it was only stated that all patrol craft found off the Dardanelles were to be destroyed. None the less a submarine was stationed off Mudros, and if the first part of the enterprise went well, the German Admiral intended to press on to Lemnos and bombard Mudros harbour by indirect fire from the eastward.¹ The plan which he and his staff thought most feasible was therefore but little different from the plan which Admiral Fremantle regarded as almost too risky to be practicable. But the duty of combating the Germans on their desperate enterprise did not fall upon Admiral Fremantle. Early in the new year he left the Ægean for England,² and was succeeded by Rear-Admiral A. Hayes-Sadler. The new Rear-Admiral hoisted his flag in the *Lord Nelson* on January 12, and four days later sailed in her to Salonica to discuss questions of interest with General Milne. By now the German plans were well advanced and almost ready for execution; there were, however, no signs of exceptional movement or preparation, so that our air forces on patrol had nothing to report during the days preceding the sortie.

The enemy had, indeed, concealed his intention with wonderful skill; but the concealment had hampered his preparations and made them insufficient. He had felt it impossible in the circumstances to make a proper reconnaissance of the minefields between Gallipoli and Imbros; and such knowledge as he possessed was very inadequate and misleading. All that the enemy knew for certain was that no mines would be found along a route which ran for about five miles due west of Sedd el Bahr, and that the

¹ Hermann Lorey, *op. cit.*, p. 332.

² Admiral Fremantle was appointed Deputy Chief of Staff by the new Board.

minefield laid across the entrance in 1916 had probably been washed away.¹ This had been ascertained by the mine-sweeping officers, and though true in itself, was a dangerous and misleading piece of knowledge. It was sufficiently accurate and circumstantial to make the enemy over-confident, and insufficient to give him the least intimation of the dangers that lay ahead of him. Beyond the old 1916 minefield, a great complex of fields had been laid along a rough curve which began to the north-west of Mavro, and covered the open sheet of water that separates Imbros from Gallipoli. These minefields lay right across the *Goeben's* track, and were practically unavoidable. The German staff did not know that they existed.

A few hours before the German ships sailed, however, a disquieting document was handed in to the German staff. It was a chart captured from a British patrol vessel which had gone ashore a month previously in the Gulf of Saros. The chart had been kept at General Liman von Sanders's headquarters, and when he heard that the *Goeben* and the *Breslau* were about to sail he ordered it to be sent on to Admiral von Rebeur-Paschwitz. The naval staff examined it, and found that it was marked with pencil lines which seemed to indicate minefields. One of these lines was drawn from Cape Teke south-eastward right across the outgoing track of the squadron; the other began at a point four miles north-westward of Mavro, and curved north-eastwards into the Gallipoli shore. There was a gap between the two. The captured chart therefore showed that the British minefields were far more numerous, and covered a larger area than the Germans imagined; and if this chart had been critically examined on the assumption that trawler skippers do not correct their charts like German navigators, it would have been taken for granted that the pencilled lines were no more than rough indications, or warnings of impending danger. Some officers on the German staff seem to have regarded the matter in this light and to have advised another examination of the mined area. This, however, was considered inadvisable, as it was thought that new sweeping operations would in all probability compromise the secrecy of the entire project. None the less, additional precautions were taken. The line on the captured chart which marked the inner minefield was disregarded, as the last sweeper's report proved that this field was no longer dangerous. The remaining indications were treated as though they were accurate and scientific data; the *Goeben's* courses were so

¹ Hermann Lorey, *op. cit.*, p. 332.

calculated that she would steam through the gap between the two lines, and so reach her bombarding position off Kusu Bay in safety.¹

¹ DISPOSITION OF THE ÆGEAN SQUADRON, 20TH JANUARY, 1918

| <i>Ægean Squadron.</i> | <i>Southern Ægean. 1st Detached Squadron.</i> | <i>Dardanelles. 2nd Detached Squadron.</i> | <i>Salonica. 3rd Detached Squadron.</i> | <i>Smyrna Area. 4th Detached Squadron.</i> | <i>Central Ægean. 5th Detached Squadron.</i> | <i>Bulgarian Coast. 6th Detached Squadron.</i> |
|--|---|---|--|---|--|--|
| Mudros. | Suda Bay. | Kusu Bay, Pyrgos. | Salonica. | Kalloni, Vathi, Laki. | Syra, Trebuki. | Stavros. |
| Battleship : <i>Agamemnon</i> Light Cruisers : <i>Lowestoft</i> , <i>Foresight</i> , <i>Skirmisher</i> . Monitor : <i>M 18</i> (under repair). Sloop : <i>Heliotrope</i> . Auxiliary Sweeper : <i>Gazelle</i> (under repair). Destroyers : <i>Arno</i> , <i>Wear</i> (under repair), <i>Kennet</i> (in dock), <i>Ribble</i> (raising steam for Malta), <i>Lyra</i> (en route from home, relief for <i>Attack</i>). | Light Cruiser : <i>Pelorus</i> . | Cruiser : <i>Endymion</i> (refitting Malta). Monitors : <i>Raglan</i> (S.O.), <i>M 28</i> . Destroyers : <i>Tigress</i> (on patrol), <i>Lizard</i> (escorting), <i>Renard</i> (oilier). | Battleship : <i>Lord Nelson</i> . Light Cruiser : <i>Latona</i> (S.O.). Depot Ship : <i>St. George</i> . | Light Cruisers : <i>Sentinel</i> (S.O.) (Kalloni), <i>Forward</i> (Kalloni). Monitors : <i>M 22</i> (Khios), <i>M 23</i> (Section). <i>Abercrombie</i> } Samos Sloop : } Section. <i>Peony</i> } (boiler cleaning). Destroyer : <i>Welland</i> . | Mine-sweeper : <i>Lynn</i> (S.O.). Destroyer : <i>Colne</i> . | Cruiser : <i>Edgar</i> (S.O.). Monitors : <i>M 17</i> , <i>M 20</i> (at Thaso). |

SHIPS DETACHED FROM THE ÆGEAN SQUADRON

| <i>Refitting. Malta, Genoa, Gibraltar.</i> | <i>Milo.</i> | <i>Alexandria.</i> | <i>Adriatic.</i> | <i>Patrols.</i> |
|---|--|--|--|--|
| Cruiser : <i>Endymion</i> (Malta). Monitor : <i>M 16</i> (Malta). Sloops : <i>Clematis</i> (Malta), <i>Tongul</i> (Genoa). Destroyers : <i>Acorn</i> (Malta), <i>Acheron</i> (Genoa), <i>Grampus</i> (Malta), <i>Hope</i> (Malta), <i>Larne</i> (Malta), <i>Phoenix</i> (Malta), <i>Rattlesnake</i> (Gibraltar), <i>Redpole</i> (Malta), <i>Rifleman</i> (Gibraltar), <i>Ruby</i> (Malta). Paid off (for repairs) : <i>Fury</i> , <i>Pincher</i> , <i>Savage</i> , <i>Scorpion</i> , <i>Usk</i> } Home ports. | Cruiser : <i>Theseus</i> (S.O.). Monitor : <i>Anemone</i> . Sloops : <i>Azalea</i> } Port Said– <i>Honey-suckle</i> } Milo. Destroyers : <i>Comet</i> } Mudros– <i>Ribble</i> } Milo. <i>Hydra</i> } Malta– <i>Cameleon</i> } Milo. | Monitors : <i>M 29</i> , <i>M 32</i> . Destroyers : <i>Basilisk</i> , <i>Jackal</i> (under command S.N.O. Egypt). | Destroyers : <i>Jed</i> , <i>Lapwing</i> , <i>Chelmer</i> } Taranto– } Alex- } andria. | Toulon. Destroyer : <i>Sheldrake</i> . Brindisi. Destroyer : <i>Alarm</i> . Gibraltar. Destroyer : <i>Nereide</i> . |

The *Goeben* and the *Breslau*, with four destroyers in attendance, got under way at 4.0 p.m. on the 19th, and at half-past three on the morning of the 20th they were at the Nagara net.¹ At twenty minutes to six they were at the entrance to the Straits off Sedd el Bahr, and a quarter of an hour later, when they were on the outer edge of the channel reported clear by the German sweepers, they turned to the south-westward. The new course was to carry the Germans between the two lines marked in pencil on the captured chart. Actually it took them on to the southern end of the complex of fields to the westward of the entrance; and at ten minutes past six the *Goeben* struck a mine.

The damage done to the *Goeben* was not serious, so the German Admiral did not allow the accident to deter him, and held on. It was a misty morning, and he seems to have been fairly certain that he had not yet been reported; this was indeed the case, for the look-out on Mavro Island had seen nothing. Soon after the mine had exploded, the two German ships turned north; the *Breslau* was sent ahead to prevent any ships that might be in Kusu Bay from escaping. The destroyers had already turned back. In this order the German ships passed Kephalo lighthouse at a distance of about two miles. The mist was still thick, and though the officers in the German ships seem to have sighted the lighthouse, the look-out men did not see them; and it was not until a few minutes later that the enemy were sighted by the ships off Kusu Bay. The two drifters on the nets, the officers in the *Raglan*, the look-out station, and the commanding officer of the destroyer *Lizard*, which was patrolling north-north-eastward of the bay, all sighted the enemy more or less simultaneously; the code word "Goblo" was made by the *Lizard* and repeated by the *Raglan*. The word signified that the enemy were out. It was sent to commanding officers of ships and squadrons, who had always understood that the signal would be preceded by definite warnings.

Before any action could be taken, indeed, before Admiral Hayes-Sadler could issue any orders, the *Goeben* opened fire upon the look-out station at Kephalo and some sunken ships in the bay (7.40). Simultaneously or nearly so the *Breslau* brought the *Lizard* under a well-directed fire, and drove her northwards. After that the German light cruiser opened upon the *Raglan*. The enemy's shooting was accurate and rapid; the *Raglan's* gunners answered with the six-inch gun and from the turret, but before they could get the range, the German shells had found their target. The foretop and the

¹ See Map 4.

director-top were hit in rapid succession, and all the control gear was at once put out of action; the engine-room was struck by two more salvoes, all the lights went out and the telephone communications were cut and destroyed. Nor did the other monitor—*M 28*—fare any better. The commanding officer held his fire for a brief interval, and by the time he opened upon the enemy they had his range. By now both the *Goeben* and the *Breslau* were firing upon the monitors and, in a few minutes, they were helpless. The drifter skippers endeavoured to cover the doomed ships with a smoke screen, but the enemy's fire was far too heavy for them to get into position.

Meanwhile Lieutenant-Commander J. B. Newill in the destroyer *Tigress*, which was patrolling to the westward of the *Lizard*, intercepted his colleague's signal and steamed off rapidly to join him. When he rounded the point he saw that the *Raglan* had already sunk, and that the small monitor was blazing. The *Lizard* was again closing Kusu to render assistance. Soon after he had taken stock of the position, Lieutenant-Commander Newill came under fire from the *Breslau* (8.20), which was to the south-eastward of him, steering south. He was then steering southwards and hugging the land fairly closely. The *Breslau's* salvoes fell close, but none hit his ship, and he continued to dog the enemy until he was near Cape Kephala. He then steered north for a short distance and was soon afterwards joined by the *Lizard* (8.40).

By now the alarm was general. Admiral Hayes-Sadler at Salonica received the first news of the raid just before eight o'clock; Captain P. W. Dumas at Mudros took in the signal at about the same time, and ordered steam to be raised in the *Agamemnon*, the *Lowestoft*, the *Skirmisher* and the *Fore-sight*. Throughout the Ægean the commanding officers of the detached squadrons gave the necessary orders for bringing the convoys into port, and for sending out their available forces to the patrol stations allotted to them in Admiral Fremantle's orders.

When the German Admiral saw that the two monitors were destroyed and that the look-out station at Kephala was badly damaged, he determined to execute the second and more hazardous part of his programme: the bombardment of Mudros, and of the ships inside the harbour. It was with that object that he was directing his course when Lieutenant-Commander Newill and his colleague in the *Lizard* had come together and begun to follow him. A sudden disaster turned the Germans from their plan. They had intended to keep strictly to the track which had carried

them clear of the minefields since the early morning; but the detonation in the *Goeben* had put the compasses out of action. The navigator was now fixing the successive positions of the ship by simultaneous sextant angles of prominent objects. In ordinary circumstances this is a difficult and hazardous method of steering, and the German ships evidently got some way to the eastward of their intended track. Their new course took them well into the minefields between Sedd el Bahr and Cape Kephala, and at half-past eight the *Breslau* struck a mine. At the moment she was passing ahead of the *Goeben*; she did not at once come to a standstill, but continued to move forward along the minefield. The lookout men reported that they were in the middle of a large field; the mines were visible all round in the clear, blue water.

The *Goeben* was carefully manœuvred to take the *Breslau* in tow, but before the towing hawser could be passed she also struck a mine (8.55). A few minutes later Lieutenant-Commander Newill in the *Tigress* and Lieutenant N. A. G. Ohlenschlager in the *Lizard*, who were now approaching, saw a succession of explosions round the *Breslau*. She detonated four more mines and began to settle down fast. Admiral von Rebeur-Paschwitz realised that his flagship was in grave danger; the damage done by the last mine was serious, the *Goeben* was being attacked vigorously by aeroplanes, and was, moreover, a fine target for any British submarine that might be about, as she lay motionless in the minefield. He now gave up all thought of bombarding Mudros and decided that the *Breslau* must be abandoned. His navigator extricated the ship from the surrounding mines with great skill, and a few minutes after the *Breslau* sank the *Goeben* was being steered to the south-westwards so that she might be taken round the minefields by the route followed on the way out.

As the *Goeben* made off for the entrance to the Straits, the destroyers that had been left behind early in the morning came out to rescue the survivors of the *Breslau*. Lieutenant-Commander Newill and his colleague pressed on to engage them, and at about 9.30 shots were exchanged. The enemy destroyers did not join action, but retired, and after a short unsatisfactory stern chase the *Tigress* and the *Lizard* came under fire from the shore batteries, and so close to the shallow minefields that further pursuit was impossible.¹ Meanwhile the *Goeben* had turned eastwards towards the Straits. Her new course took her into the fields for the third time during the day and she again struck a mine as she crossed them

¹ They picked up 14 officers and 148 men from the *Breslau* after they had retired out of range.

(9.48 a.m.). She now listed over to port; but in spite of her injuries was still able to steam at a fair speed.

Whilst the *Goeben* was making her way back into the Straits our forces at Mudros were leaving harbour. They were too late to intervene; and, in any case, Admiral Hayes-Sadler, who was making preparations against a protracted raid lasting for many days, ordered Captain Dumas to meet him off Cape Paliuri, at the south-eastern entrance to the Gulf of Salonica.

By now our air forces were hovering over the crippled *Goeben* and reporting her movements. As she approached Nagara Point two planes were observing her closely; the officers in them saw her turn suddenly and unaccountably towards the land, and run fast aground. The German captain had made a mistake about the positions of the buoys marking the passage through the net, and had given a wrong order to the helmsman. It was now about 11.30 a.m.

The news that the *Goeben* was aground was received at the air headquarters in Imbros and Mudros soon after the aeroplanes had seen the accident; from then onwards the German battle cruiser was bombed without respite. These attacks, though executed with the utmost daring and pertinacity, did practically no damage; but they made the salvage work extremely difficult.¹

Admiral Hayes-Sadler steamed into Mudros at 1.45 p.m. on the 21st. Some time before he reached his anchorage he knew that the *Goeben* had retired. The Admiralty had also received the news and wired to the Commander-in-Chief telling him that every effort should be made to destroy the *Goeben*, and instructing him to go in person to the Ægean. He reached Mudros in the *Lowestoft* on the 25th.² The *Goeben* was still aground: the attacks from the air were being continued with the greatest vigour; but an attempt to bombard her by indirect fire from a monitor had not been successful. Submarine attack was the only possible means of damaging her beyond repair.

There was only one submarine off the Dardanelles at the time, and one of her propeller shafts was out of action; *E 14* (Lieutenant-Commander G. S. White) was therefore ordered into the Ægean from Corfu; and on the night of the 27th she sailed for the Straits. The obstructions off Chanak were far more formidable than they had been in the early days of the Dardanelles campaign, when British submarine commanders entered the sea off Marmora almost at will;

¹ See Hermann Lorey, *op. cit.*, pp. 344, 345.

² The *Lowestoft* was sent to Syra on the 24th, where she met the *Cameleon*, which had carried the C.-in-C. from Malta.

but Lieutenant-Commander White passed them, although with great difficulty. When he reached the position where the *Goeben* had been aground he found that she had gone. The German battle cruiser had been worked free and towed off two days before.¹ Lieutenant-Commander White turned back. On his way to the net he sighted a Turkish auxiliary and fired a torpedo at her; this seems to have warned the Turks that a submarine was in the Straits and to have put them on their guard, for *E 14* was attacked almost immediately by a depth charge which did considerable damage. From now onwards the British submarine was very difficult to handle; and when Lieutenant-Commander White was at last compelled to bring his boat to the surface, the Turkish batteries at once opened upon her, and she sank in deep water. Lieutenant-Commander White was killed by the bursting shells; his body, terribly mangled, rolled into the sea just before his submarine went down.

As soon as the raid was over, the Commander-in-Chief urged that the minefields at the entrance to the Straits should be reinforced; the Admiralty agreed, and the necessary orders were issued. But, although no one on our side could know it, there was no chance that the *Goeben* would break out again. Her damages were far too great to be repaired in the dockyard at Constantinople; all that the Germans could do was to build coffer-dams and improvise bulkheads round the rents in the battle cruiser's hull, and keep her in harbour. Apart from this, the raid caused great excitement in Constantinople. When Admiral von Rebeur-Paschwitz first laid his plans before the Turkish authorities, Enver Pasha had warned him to be careful, and to remember that the *Goeben* and *Breslau* were as valuable to Turkey as the Grand Fleet to Great Britain.² As soon as it was known that the *Breslau* was lost, and the *Goeben* in grave danger, the Turks were bitterly indignant. It seemed to them that the German naval staff had been reckless with the national property entrusted to them, for the *Goeben* and *Breslau* had sailed under the Turkish flag, and had, for long, been regarded as part of the Ottoman navy. Enver and his colleagues were quite determined that the *Goeben* should never again be risked in what they regarded as a foolhardy enterprise.

The German U-boats were, in fact, a far more serious menace, actual and potential, than the damaged *Goeben*.

¹ She was towed off the sand-bank by the battleship *Turgut Reis* at a quarter to four in the afternoon watch, January 26th. See Hermann Lorey, *op. cit.*, p. 347.

² See Hermann Lorey, *op. cit.*, pp. 331, 341.

During January the loss of merchant shipping was still at a dangerous figure, and the counter-attack upon the U-boats was as ineffective as ever.¹

Admiral Calthorpe was, by now, able to put the traffic between Gibraltar and Genoa under convoy. The first experiment was disastrous; out of a convoy of six only two ships reached Marseilles on February 1. But Admiral Calthorpe did not consider that the disaster proved the system to be at fault, and on February 4 gave the executive order for running the convoy at regular four-day intervals. The merchantmen were to be escorted by British ships to the Franco-Spanish border, and thence by Italian forces. This decision was well justified by the immunity from loss that the convoy subsequently enjoyed. But although the British Commander-in-Chief did not in any sense under-value the convoy system, he was still convinced that it must be supplemented by a vigorous offensive against the U-boats; and on February 8 urged his views upon the Allied Naval Council which assembled in Rome. His proposals were to ease the duties imposed upon the escort craft and not to make the convoy system more embracing. "A barrage . . . which would effectually prevent enemy submarines from entering or leaving the Adriatic would, in a short space of time, entirely secure the safety of shipping in the Mediterranean, and the provision of the large number of escorting vessels now employed would cease to be a necessity." The barrage which the British Commander-in-Chief desired to establish would consist of successive lines of submarines, destroyers, hydrophone drifters and trawlers, distributed across the Straits of Otranto between the 39th and 42nd parallels. The total force required was very large and could only be assembled in the Adriatic by withdrawing the Dardanelles patrol and reducing the forces allocated to convoy by seven destroyers, eight sloops and twelve trawlers. The proposal to reduce the Dardanelles patrol was in Admiral Calthorpe's opinion a perfectly safe one. He was now persuaded that the *Goeben* was so damaged that the Germans could not hope to bring her out for another sortie. The British Commander-in-Chief's proposals were considered conjointly with an Italian proposal for placing a fixed barrage across the Otranto Straits; for the Italians were not discouraged by the failure of their first experiments. The council endorsed both the British and the Italian projects; but plans which so materially affected the existing policy had necessarily to be referred for final approval to the Allied

¹ See Map 5.

Naval Council which was to assemble in London in the following month.

When the Council assembled, on March 12, two plans for operations in the Adriatic had to be considered. The American naval staff proposed that a large combined operation should be undertaken against the Sabioncello peninsula, and that a deep minefield should be laid across the middle Adriatic between the Gargano peninsula and the islands opposite. No immediate decision could be taken on a plan of this kind: Admiral Calthorpe's project, which was purely naval, could be sanctioned if it were generally approved. But it was none the less a plan which raised a fine question of strategical policy. If it was true that the *Goeben* would never break out again, and that the Dardanelles patrol could be withdrawn, and other duties allotted to it, then the force thus released might be used either to make the existing convoy system more embracing or to form the nucleus of the Otranto force which Admiral Calthorpe was so anxious to assemble. Which was the better employment? It is regrettable that the statistics prepared by the Mediterranean staff were not presented to the Council. Presumably several members had seen those statistics at some time or another; but nobody seems to have realised that they were now essential basic data, if the question before the Council was to be scientifically examined. The figures collected by the Mediterranean staff were certainly striking: they proved that 98 per cent. of ships in convoy might be expected to reach port in safety.¹

Admiral Calthorpe's original forecast that the convoy system would only reduce losses for so long as it was a novelty was, moreover, quite contradicted by the facts, for they showed that its efficacy was actually rising. The volume of convoyed traffic had certainly been increased since November, for 68 per cent. of the total sailings were now being escorted. But there were still about 650 unescorted sailings in the Mediterranean during the month. There was, therefore, still room for a certain amount of expansion, although, as Admiral Thaon di Reval pointed out, a further extension of the con-

¹ Percentage of losses to ships convoyed

| | For month. | Mean percentage of loss from the in- stitution of the system to the end of the month. |
|----------------|---------------|---|
| November | 2.36 | 2.36 |
| December | 2.04 | 2.17 |
| January | 1.59 | 1.92 |
| February | 0.64 | 1.52 |

voy system was beset with difficulties. A proportion of unconvoyed vessels were ships engaged in the local coastal traffic of the Tyrrhenian sea; and no satisfactory convoy system for this kind of traffic had yet been devised, far less attempted.

But although it might have been difficult to make the Mediterranean convoy system more embracing, at least the desirability of doing so was proved by facts and figures which nobody could question. The same could not be said of Admiral Calthorpe's plan, which was no more than an attractive and feasible project. Its results and consequences could not be tested by scientific data, they could only be guessed at by analogy. The only available analogy was that afforded by the mobile barrage and deep minefields of the Straits of Dover; but the analogy was not a close one. The essence of both systems was that a narrow passage should be watched by a large number of patrolling craft; but in the Dover Straits this patrol was supplemented by a deep minefield, which was the chief destructive agency. The submarines sunk in the Straits of Dover since the beginning of the year had mostly been destroyed in the minefield, and there was nothing to suggest that the Dover Patrol, operating by themselves, would have been as effective. To mine the Straits of Otranto as the Dover Straits had been mined was not in contemplation, so that, unless it could be anticipated that Admiral Calthorpe's patrol would be operating with advantages peculiar to that area it was most doubtful whether there were good grounds, or, indeed, any grounds at all, for supposing that the new barrage would stop incoming and outgoing submarines, as Admiral Calthorpe hoped. The geographical configuration of the two zones showed advantages fairly equal in each case. The Straits of Otranto are longer than the Straits of Dover—and this would be an assistance to our attacking forces; but they were very much deeper—and depth would be helpful to the submarines.

It is true that the tides in the Straits of Dover are stronger, which is a point in favour of the surface forces, who can check their positions by landmarks; but they are more irregular in the Straits of Otranto; yet again this possibly did not count for much, since an irregular tidal stream is only dangerous to a submarine which is navigating circumspectly to clear a minefield.

These points were in any case only indications and guides, and not precise facts from which deductions could be drawn. It does not appear that any known fact justified the presumption that Admiral Calthorpe's barrage would prove

an impassable barrier instead of an occasionally fatal obstacle.

When, therefore, the Allied Naval Council decided that Admiral Calthorpe should carry out his plan and that the Italians should lay their fixed net barrage across the Straits, their decision was not the outcome of a scientific investigation of two alternative measures of war: reducing losses by defending shipping, or by attacking U-boats. In any case, to put this plan into operation was the work of some months. In the meantime sinkings continued to be high, the average daily yield of each operating U-boat was hardly changed, certainly it was not lowered; the rate of U-boat destruction was so low that it could not possibly affect the campaign.¹

¹ See Appendix C, Submarine Warfare in the Mediterranean, Sept. 1917 to Sept. 1918.

CHAPTER III

THE SUBMARINE CAMPAIGN IN HOME WATERS AND THE EXTENSION OF THE CONVOY SYSTEM

1

August and September 1917

WE have seen that as the summer of 1917 was drawing to its end, the German people and their representatives first began openly to express their anxiety about the results of the campaign at sea. But if doubts of final victory had filtered into the confidence of the German people, similar misgivings were present in the minds of the Allied leaders. The general position was still critical on every side: the revolutionary spirit had utterly demoralised the Russian armies; the French armies were still suffering from their defeat in the spring of the year, and the national morale showed signs of weakening. The more stalwart spirits in the French capital denounced the doubters as *défaitistes* or worse; but to serious-minded men it was obvious that the French nation could not be expected to endure suffering and disappointment indefinitely. The French had suffered invasion, and had borne the losses of three immense and futile offensives without a murmur; if the catastrophe of Craonne had shaken their tenacity and stoicism, no reproach could be reasonably levied against them. But no survey, however sympathetic, could ignore the stark fact which emerged from these disappointments and anxieties: the hope of breaking the resistance of the Central Powers by a general Allied offensive on all fronts had practically disappeared. All that British Ministers could do was to take upon Great Britain the utmost that she could bear of the Allied burden: to encourage to the utmost the resistance of our Allies and to hope that the arrival of the American reinforcements in the coming spring would, in the end, turn back the onset of our misfortunes.

But the burden that Great Britain could bear was strictly proportionate to her resources at sea; and on this point the outlook was still alarming. The totals of monthly losses

continued to be far in excess of our powers of replacement; and the pressing need of the moment was to reduce those losses. It was natural that a solution of this urgent problem should be sought in the extension of the convoy system. The advantage of extending it was now apparent both to the naval and the shipping authorities, but in both these quarters there were still doubts as to the practicability of any such extension. On July 12, 13 and 20 a series of conferences was held between the War Cabinet, the Admiralty, the Ministry of Shipping, and leading representatives of the shipping industry, at which the whole question of trade defence was discussed in great detail. As the result of these conferences it appeared that the number of voyages requiring protection was more manageable than had been supposed, and with a view to covering as large a proportion as possible of the homeward trade, the Admiralty agreed to consider the use of somewhat smaller destroyer escorts, and to try the experiment of trawler escort for the slow vessels, mostly ore ships, homeward bound from the Mediterranean.

On August 2, as the result of a suggestion made at these meetings, a further conference was held at the Admiralty with representatives of the Chamber of Shipping, mercantile masters, and marine superintendents, for the purpose of establishing a closer liaison between the Navy and the Mercantile Marine, and at this conference the ship-owners' representatives pressed hard both for an extension of the convoy system to vessels of over twelve knots and for a grouping of ships in convoy according to speed, so as to reduce the grave delays suffered by the faster vessels.

The inclusion in one convoy of ships with speeds varying from eight to twelve knots was obviously uneconomical from the commercial point of view. It was also objectionable from the point of view of escort commanders, as it increased the difficulty of good station keeping and group manœuvring. Apart from this, it had now become evident that, in face of the increased efficiency of the newer U-boats, speed had ceased to be an adequate protection unless it approached twenty knots, and that vessels of over twelve knots must, if possible, be included in the Atlantic convoys. It was accordingly decided to rearrange the North Atlantic sailings in such a way as would at once provide escort for the faster ships and reduce the disparity in speed between the fastest and the slowest vessel in each convoy. This, however, was a matter that required careful organisation. The main difficulty lay in reconciling the new principle of grouping by speed with the old principle of grouping by destination.

The advantage of grouping in company ships of which some were bound for West coast and some for East coast ports was too great, both from the naval and commercial point of view, to be lightly given up; but it was not possible, with the forces available, to duplicate each of the existing sailings by adding a special convoy for the faster ships. It was therefore necessary to provide for a rearrangement of the services which would enable the faster vessels to be concentrated on the service of the West coast ports, and negotiations for this purpose were accordingly opened up, through the Ministry of Shipping, with the lines represented in the North Atlantic Conference.

Meanwhile the first regular homeward convoy from Gibraltar had sailed on July 26. For these convoys the ocean escort consisted of "special service vessels" (Q-ships), and owing to the shortage of destroyers it was only possible to bring them through the home danger zone with a trawler escort, stiffened by one or two destroyers. The Gibraltar convoys, however, stood apart from all others in that there was a danger area at each end of their voyage, and they were accordingly taken out from Gibraltar by sloops, torpedo boats and armed yachts, who saw them clear of Cape Spartel.

But this was not enough: it was most important to put the whole of the South Atlantic traffic under convoy. The German attack had recently been extended to the Azores-Canaries zone, which is one of the areas on which ships bound to and from the South Atlantic are more or less compelled to concentrate. Early in June Lieutenant-Commander Meusel, commanding *U 155*, a submarine cruiser with two 5.9-inch guns, had sunk the *Scottish Hero* at a point about 450 miles north-westward of Cape Finisterre. For the rest of the month he had cruised with a certain degree of success near the 43rd parallel, and to the north and north-east of the Azores. Early in July he changed his ground and, after bombarding San Miguel, cruised in the passage between Madeira and the Azores; he remained there until August 11 and then made for home. His daily rate of destruction was far lower than that of the U-boats operating further north in the immediate approaches to the British Islands; for his cruise lasted rather over a hundred days and he sank but nineteen vessels in all. Nevertheless, this new phase of submarine warfare was profoundly disturbing. The Germans had succeeded in extending their attack to one of the most important nodal points on the outer trade routes; and had, moreover, made it the object of a continuous attack

which had lasted without let or hindrance for about two months.¹

The reply to this new attack was, however, prompt and effective. Early in August, convoy was introduced in the South Atlantic, and here a beginning was made with the system of grouping according to speed. The Convoy Committee had suggested Dakar as the port of assembly for the whole South Atlantic trade. It was now decided to separate the faster ships and sail them from Sierra Leone. Cape Town, Rio de Janeiro and Montevideo were accordingly instructed, on August 1, that all ships capable of a daily run of 270 miles in ordinary weather were to be given routes to Sierra Leone, and all slower vessels to Dakar. At the same time Rear-Admiral Sheppard was informed that it was proposed to include all merchant ships of sufficient speed in the troopship convoys from Sierra Leone, and to sail these convoys every eight days more or less, with a slow convoy from Dakar every twelve days. In practice, however, the Dakar convoys sailed from the first at an average interval of eight days, in order to synchronise with outward convoys.

In reply to this message Admiral Sheppard reported that the sailing from Sierra Leone could be started at once. Commander H. B. Worsley, in charge at that port, was appointed Port Convoy Officer, and the first convoy (*HLI*), consisting of seven vessels, sailed on August 11.² Having made the necessary arrangements at Sierra Leone, Admiral Sheppard then went to Dakar, to take the initial steps for setting up a convoy organisation at that port. Rear-Admiral H. J. L. Clarke was sent out from home as Port Convoy Officer, and pending his arrival, Admiral Sheppard himself organised and despatched the first Dakar convoy (*HDI*), of eighteen vessels, on August 22.

The original proposal of the Convoy Committee had been that the ocean escort for the South Atlantic convoys should be provided by heavily armed Elder Dempster liners.³ It was eventually decided, however, to give them cruiser or armed merchant cruiser escort, drawing for this purpose on the 9th Cruiser Squadron, which had already been employed on troop convoy, and supplementing, when necessary, by

¹ Lieutenant-Commander Meusel left Germany on or about May 24; and arrived in the Madeira-Azores area on June 13. He sailed for home on August 11 and reached Germany about September 4. His effective cruise thus lasted for about two months—June 13–August 11.

² For meaning of convoy abbreviations, see Appendix B.

³ It was proposed that they should be commissioned as "Armed Escort Vessels."

ships detached from the 10th Cruiser Squadron. The first Sierra Leone convoy was, accordingly, brought home by the armed merchant cruiser *Morea* of the 9th Cruiser Squadron, and the *Moldavia* (10th Cruiser Squadron) was sent out to take charge of the Dakar convoy.

While this extension of the system to the South Atlantic was being organised, the arrangements for regrouping the ships in the North Atlantic were proceeding satisfactorily. On August 10, the necessary system of services was approved by Sir Alfred Booth, on behalf of the North Atlantic Conference; but time was needed to work out both the naval and the commercial arrangements, and before the regrouping was effected the whole system of ocean convoys had entered on a further new phase, through the application of convoy to the outward traffic.

It will be remembered that outward convoys were included in the original scheme drawn up by the Convoy Committee, and their institution had been postponed solely because of the shortage of craft for escort. By the middle of August, however, the provision of more efficient protection for outward bound vessels had become imperative. The first effect of the homeward convoys appears to have been to turn the attention of the U-boat commanders from the homeward to the outward traffic, either because of the difficulty which they found in locating the convoys, or from their reluctance to attack ships under escort. In April, the ratio of sinkings to sailings had been 18 per cent. in the homeward and only 7 per cent. in the outward traffic. By August, while the homeward sinkings were rapidly decreasing, the losses among outward bound ships were becoming more numerous. It was clear, therefore, that outward convoy must be provided; but to duplicate, for this purpose, the allocation of cruisers and destroyers for escort work was out of the question, in view of the other calls upon the forces available.

The introduction of outward convoys was, however, effected with less difficulty than might have been anticipated. The convoys, which consisted of ships for many different ports, were kept together as a formed body only through the submarine danger zone. As soon as this had been traversed, the convoy was dispersed, and the ships proceeded independently to their respective destinations by routes previously laid down. Occasionally an armed merchant cruiser or a commissioned escort ship, returning to a convoy assembly port abroad, was included in an outward convoy; but this was rather for her own safety than for the purpose of serving as ocean escort on the outward voyage.

The problem of the destroyer escorts remained, and for its solution the Admiralty fell back on a proposal made by the Convoy Committee that the outgoing escort flotilla might be used to meet and bring in a homeward convoy, thus rendering two services without actually working double time. The committee had decided that this might be done "in some cases, during the summer months"; but so urgent was the need for economising escort strength, that it was now resolved to adopt the principle as the pivot of the whole convoy system.

This scheme, however, not only involved the most careful organisation, but it put a much heavier strain on the officers and men of the flotillas. The destroyers were now required to escort an outward convoy to its point of dispersal on the outer edge of the danger zone, and then to steam, during the night, to the "destroyer rendezvous" of a homeward bound convoy, meet it at daybreak and bring it in. Formerly they had proceeded straight to the rendezvous; now they had nearly two days' zigzagging with the outward convoy. Their time in port was thus seriously cut down, and both out and home they were responsible for the safety of the merchant ships in their charge. The whole organisation of the scheme became more complex and more difficult, for the time occupied in zigzagging with the outward convoy and steaming to the rendezvous allowed no margin whatever, and compelled the most rigid adherence to programme, in order that the synchronisation of the inward and outward sailings might be preserved.

The ports selected for the assembly of outward convoys were Devonport, Falmouth, Milford, Queenstown and Buncrana.¹ The Devonport convoys (*OD*) took out all ships from East coast and Channel ports with a speed of ten knots and upwards, wherever bound. The sailings were a little irregular, since they had to be adjusted to the movement of outward troop convoys as well as homeward convoys; but they gave a minimum of two in each eight-day cycle. The escort of one of these convoys met and brought in a Hampton Roads-East coast convoy; the other met the convoy from Sierra Leone. As this convoy consisted of ships bound for either coast, the destroyer escort was reinforced when nearing home, so that one half of its strength might take the east-bound ships up channel, while the other half saw the west-bound vessels clear of the Smalls.

From Queenstown a ten-knot convoy (*OQ*) for ships from

¹ Only two convoys were assembled in Buncrana; the port of assembly was then changed to Lamlash. Buncrana remained the escort port.

the Bristol Channel, whether bound for the North or South Atlantic, sailed every four days. One escort met alternately a Sydney or New York-East coast convoy; the other met the homeward bound ships from Dakar. In both instances a flotilla from Devonport relieved Queenstown in 5° W., taking on the vessels for Channel or East coast ports, while the Queenstown destroyers took charge of the west-bound portion of the Dakar convoy, or saw ships bound from North America to French Atlantic ports as far as the neighbourhood of Brest. Queenstown thus provided two, and Devonport four escorts in each eight-day cycle.

The Buncrana escorts took out two convoys in each eight days, and met, the one a New York West coast convoy; the other a convoy from Sydney or Hampton Roads. The outward traffic was composed of ships from the Clyde and Mersey, mostly bound for North American ports.

The slower south-bound traffic remained to be provided for, and, like the homeward Gibraltar convoys, it had to depend mainly on trawler escort. From Falmouth a 7½-knot convoy (*OF*) of South and East coast ships bound for the Mediterranean or ports south of Gibraltar sailed at eight-day intervals. The escort was composed of ten trawlers from the Falmouth flotilla, stiffened by two destroyers from Devonport, and after dispersing the outward bound trade, it met an East coast convoy from Gibraltar.

Hitherto, the Gibraltar convoys had been mixed; but from August 10 onwards they were composed alternately of ships bound for the East and West coasts. The object of this was to facilitate the double work of the escorts, the west convoy being met by trawlers which had taken out an outward convoy from Milford. From Milford, however, two convoys (*OM*) sailed every eight days, the escort of the alternate convoy returning direct to the base without meeting a homeward bound group. Both outward convoys consisted of ships with a minimum speed of 7½ knots bound from West coast ports for the Mediterranean or South Atlantic. Here as with the Falmouth escorts, the trawlers were stiffened by a couple of destroyers, provided in this instance by Queenstown.

It was on August 11 that the decision to provide outward convoys was finally taken, and by August 15 a provisional programme had been worked out. During the next few days the first outward convoy sailed from each port, as shown in the following table, which will help to make clear the precise and delicate nature of the synchronisation between outward and homeward sailings.

| Outward convoy. | Date of sailing. | Homeward convoy met by escort. | Date of rendezvous with home- ward convoy. | Original sailing date of homeward convoy. |
|--------------------|---------------------|--------------------------------------|---|--|
| OM 1 | Aug. 13 | HG 5 | Aug. 17 | Aug. 10 |
| OD 1 | " 16 | HH 14 | " 18 | " 3 |
| OB 1 | " 17 | HS 5 | " 20 | " 10 |
| OF 1 | " 18 | HG 6 | " 21 | " 15 |
| OM 2 | " 18 | — | — | — |
| OD 2 | " 20 | HL 1 | Aug. 23 | Aug. 12 |
| OQ 1 | " 21 | HN 4 | " 22 * | " 7 |
| OB 2 † | " 21 | HH 15 | " 23 | " 7 |
| OM 13 | " 21 | HG 7 | " 25 | " 18 |
| OQ 2 | " 25 | HS 6 | " 28 † | " 17 |
| OB 3 | " 25 | HN 5 | " 28 | " 14 |
| OD 3 | " 25 | HH 16 | " 27 | " 11 |
| OM 4 | " 25 | — | — | — |
| OF 2 | " 26 | HG 8 | Aug. 29 | Aug. 22 |

* Relieved by Devonport escort Aug. 24.

† " " " " " 31.

† Did not actually sail as arranged; see below.

While the arrangements for the outward convoys were being put in hand, the preparations for a reorganisation of the homeward traffic were also making steady progress. The problem, it will be remembered, was twofold—to provide for the inclusion of ships with a speed above twelve knots, and to minimise the discrepancy in speed between vessels included in the same convoy. The first part of the problem was solved by starting a new convoy from Halifax (HX), to include all oilers and all merchant vessels bound for West coast ports, with an actual sea speed of $12\frac{1}{2}$ knots and upwards, except a few very fast ships which continued to run independently. From Halifax the vessels sailed at eight-day intervals, in company with the Canadian troopships, which had previously run in troop convoy, at irregular intervals, from that port. The object of restricting the sailings to West coast vessels was to economise destroyer escorts, and it was this restriction that involved so important a rearrangement of services. All vessels, possessing the minimum speed required for the Halifax convoy, which had previously traded to London, or to other East and South coast ports, were now transferred to Liverpool or other ports on the West coast, and were replaced in the East coast trade by slower vessels which had previously been sailing to the West coast. By energetic and skilful co-operation between the Admiralty, the Ministry of Shipping and the shipowners,

all arrangements were completed in time for the first regular convoy, consisting of five troopships and seven merchantmen, to sail from Halifax on September 5, under escort of the armed merchant cruiser *Almanzora*.¹

The regrouping of the eight-knot to twelve-knot steamers came into operation a few days later. It was based on the principle of reserving the Hampton Roads and Sydney convoys exclusively for slow vessels, and transforming the New York sailings into a convoy for "medium" ships. It now comprised all steamers with a minimum speed of 240 miles a day but not fast enough for the Halifax convoys, and sailed at four-day (instead of eight-day) intervals, for the East and West coast alternately. For the Hampton Roads convoy, on the other hand, which continued to sail alternately for the East and West coast, the time-table was altered from an interval of four to one of eight days, and the list was confined to steamers with a daily speed of 200 to 239 miles. Faster vessels from the Gulf and Caribbean arriving at Newport News to bunker were, however, occasionally included if they happened to strike a sailing date, as the delay caused by sending them on to New York would outweigh the gain in speed. In the same way, the New York "medium" convoy occasionally included ships with a speed of more than twelve knots that were compelled to come to East coast ports.

It was on September 14 that the first of these new "slow" convoys sailed from Hampton Roads, and on the following day the first "medium" convoy left New York. The sailings of the Sydney convoys were unaffected, except that New York absorbed a few of the faster ships. The result of the change may be summarised as follows: Previously, four convoys (two from Hampton Roads, and one each from New York and Sydney) had left North American ports every eight days; half the sailings being for the East and half for the West coast, and all convoys being restricted to a speed of about eight knots.² There now sailed during each eight-day cycle one fast, 12½ knots, West coast convoy from Halifax; two medium, ten-knot convoys from New York, one for the East and one for the West coast, and two slow,

¹ This convoy was numbered *HX2*, as a previous convoy had sailed from Halifax on August 21. The series of regular sailings starts with *HX2*.

² *Old scheme per eight days.*

HH 1 E, 1 W.

HS 1 E/W alternately.

HN 1 E/W alternately.

New scheme per eight days.

HH 1 E/W alternately, 8 knots.

HS 1 E/W alternately, 8 "

HN 1 E, 1 W. 10 "

HK 1 W. 12½ "

eight-knot convoys, from Hampton Roads and Sydney respectively, bound alternately for either coast.

This regrouping and the introduction of South Atlantic convoys involved, of course, a corresponding change in the arrangements for destroyer escorts. The new Halifax convoys were met from Buncrana, but were not synchronised with any outward sailings. The West coast sailings from New York and Hampton Roads continued to be synchronised with the outward convoys from Lamlash; but the East coast sailings from New York were now met from Devonport; those from Hampton Roads were met from Queenstown. Devonport also met the Sierra Leone, and Queenstown the Dakar convoys.

The net effect was that Buncrana now provided three escorts every eight days, to meet respectively an *HX* (fast), *HN* (medium), and an *HH* or *HS* (slow) West coast convoy—all brought in north-about. The escort meeting the fast convoy steamed straight to the rendezvous. The other two escorts meeting the medium and slow convoys each took out with them an outwards (*OB*) convoy.

Queenstown provided two escorts every eight days, each of which took out an *OQ* convoy, and then met, either a homeward bound convoy from Dakar, or an East coast one sailing from either Sydney or Hampton Roads. Devonport provided four escorts. Two of these took out an *OD* convoy, and met respectively a Sierra Leone convoy or an East coast convoy sailing from New York. The other two, which had no outward convoy in charge, relieved Queenstown, in 5° W., of the Hampton Roads convoy, or brought in the east-bound portion of *HD*, leaving Queenstown to take on the west-bound ships.

2

The Submarine Campaign—The Disasters to the Q-ships

August 1917

Meanwhile the submarine campaign continued to be very disquieting. The total losses during August amounted to over half a million tons of British and neutral shipping, and the month was also marked by a striking series of successes gained by the German submarine commanders over their old enemies the Q-boat captains.¹ The circumstances in which four Q-boats were destroyed are well worth noticing, for they show how the fortunes of the submarine campaign

¹See Map 1.

were rising and falling. The calamities began early in the month. At four o'clock in the morning of August 5, the *Chagford* (Lieutenant Douglas G. Jeffrey, R.N.R.) was about 120 miles to the N.N.W. of Tory Island, on the look-out for two submarines which had been reported on the previous day, when she was torpedoed in the after part. Every Q-ship captain cheerfully accepted a torpedoing as the preliminary to an action: Lieutenant Jeffrey at once ordered away the usual panic party and waited for the submarine to show herself. She did so a few minutes later, at a distance of 800 yards, and as the screens round the disguised guns had been knocked down by the first explosion, and there was no chance that he would tempt the submarine commander to come in closer, Lieutenant Jeffrey opened fire as soon as the U-boat was visible. She submerged again at once, and in the next hour two more torpedoes struck the *Chagford*, and to these she was not again given any opportunity of replying. Thanks to his fine seamanship, to the magnificent spirit of his men, and to the assistance given by the trawler *Saxon*, Lieutenant Jeffrey managed to save most of his crew and to keep his ship afloat until the following day. It was none the less an ominous fact that from the beginning to the end of the engagement the U-boat had been master of the situation. Not for a moment had the Q-ship tactics been of the slightest effect.

Three days later there was another disaster of the same kind, and this time it occurred to Commander Gordon Campbell—the Q-ship commander who had repeatedly gained brilliant distinction in this form of warfare. On the morning of August 8, he and his companions—for they were by now rather his companions, or clansmen, than his crew—were about one hundred miles west of Ushant in the *Dunraven*. The vessel was zigzagging on either side of a north-easterly course, as though approaching the north of the Channel from the South Atlantic. Commander Campbell had decided that this time, if he met a submarine, he would imitate the tactics of an armed merchantman; and at eleven o'clock a submarine was sighted well down on the horizon, and to starboard.¹ Commander Campbell kept on his course in order to entice the enemy to come in closer. In this he was quite successful, for at a quarter to twelve the submarine broke surface about two and a half miles away, on the starboard quarter, and opened fire. Commander Campbell at once turned away from her, and reduced to seven knots. His crew manned the concealed guns, and a detachment kept

¹ UC 71, Lieutenant-Commander Saltzwedel.

up an intermittent and deliberately inaccurate fire with the small after gun. There was a considerable sea running, which swept the submarine, and for a long time the German shooting was poor; but about an hour after the action began two shells went in rapid succession through the *Dunraven's* poop and did serious havoc. A depth charge exploded which blew Lieutenant Bonner out of his control station; and, worse than that, a serious fire was started all round the magazines. The concealed guns' crews were mostly stationed above the burning portions of the poop, and it seemed only a matter of time before they would be suffocated by the fumes and smoke or blown into the air by the explosion which must soon shatter the after part of the vessel. But Lieutenant Bonner and the guns' crews had no thought except to conceal themselves until their captain gave the signal, and to bear their sufferings as calmly as they could. One of the men tore up his shirt and gave it to his companions to wrap round their mouths in order that the fumes should not choke them, the others kept moving the cordite from place to place on the deck, which was getting red-hot beneath them. Meanwhile Commander Gordon Campbell ordered the engine-room to send up clouds of steam to simulate boiler trouble, and stopped his ship. For a short time it seemed as though the unbreakable endurance of the *Dunraven's* crew would deceive their enemy; for the submarine came steadily nearer, and passed at a short distance under the Q-boat's stern. In a few moments she would have come within the line of fire of three concealed guns at a range at which there could have been no missing; but before she did so the fire which was raging inside the poop blew up two depth charges, and the explosion hurled one of the four-inch guns into the air: simultaneously the gun's crew round the concealed gun on the after bridge opened fire. The disguise was exposed, and the submarine immediately submerged.

Commander Campbell and his men were still far from admitting themselves defeated. The gun duel was over, but the second round of the engagement, to be fought out with torpedoes and depth charges, was about to begin. Signals were at once made to the ships near at hand telling them to keep away, the wounded men were carried below, and a desperate effort was made to quench the fire under the poop. Commander Campbell waited for the enemy's torpedoes, and at twenty minutes past one his ship was hit abaft the engine-room. He now gave orders to abandon the vessel without further attempting to keep up her disguise in the hope that the submarine would again approach and fall a victim to the

small nucleus that would remain behind in the last ring of concealed positions. Nothing further could be done to master the fire under the poop, and from now onwards the cordite and shells exploded every few minutes; the splinters flew all over the ship and penetrated the cabins where Lieutenant Bonner and his men lay wounded; but all the time Commander Campbell remained concealed in the hope that the U-boat captain would break surface unwarily. Lieutenant-Commander Saltzwedel was not to be caught; he came to the surface again right astern of the *Dunraven*, and shelled her steadily for another twenty minutes. At some moments Commander Campbell could have replied; but he waited, always hoping that the submarine would expose herself to a decisive fire. She never did so; her wary commander submerged again, and Commander Campbell fired a torpedo at the periscope as it moved along the *Dunraven's* port side. The torpedo missed by a grievously small margin, and the U-boat's crew do not seem to have noticed it. A few minutes later Commander Campbell fired another torpedo; it too missed, but this time the U-boat commander saw it, and at once submerged completely. There was no longer the slightest hope that he would be caught, and Commander Campbell very reluctantly made an urgent signal for assistance. The U.S.S. *Noma* and the destroyers *Christopher* and *Attack* arrived soon after.¹ Every effort was made to bring the *Dunraven* back to harbour, but at one-thirty a.m. on August 10 she had to be abandoned, as the seas were then breaking right over her and she was sinking fast.

In the first days of the month, therefore, the German submarine commanders had fought two successful actions against two of our first Q-ship commanders. Five days later the list was increased by another calamity. This time it was the *Bergamot*, which was torpedoed when patrolling in the Tory Island approach. Her commander, Lieutenant Perkins, R.N.R., tried to deceive the U-boat captain by the usual panic party; but the *Bergamot* sank too rapidly for the deception to have any success.

Even after this, the disasters to the decoy ships were not ended; and in the early hours of the 14th, Lieutenant-Commander W. E. Sanders, V.C., R.N.R., lost his life. He was in command of the Q-boat *Prize*, a topsail schooner with concealed guns, and was cruising in the Tory Island approach in company with submarine *D 6* (Lieutenant-

¹ *Christopher* (4th Flotilla, Devonport) was going to one of the western approach routes to patrol. *Attack* (2nd Flotilla, Devonport) was returning from escorting transports to St. Helens.

Commander Richardson). In the afternoon of August 13 the two vessels were acting together when a submarine was sighted about 150 miles north-west of Rathlin Island. Lieutenant-Commander Sanders hoisted the Swedish ensign at the dip, and *D 6* at once submerged and manœuvred to get in a torpedo at the U-boat; so that if everything went well and the attacking submarine approached the schooner, she would be subjected to a double attack. The German submarine (*U 48*) had sunk the British steamer *Roanoke* on the day before, and had her master, Mr. Williams, aboard as a prisoner. The U-boat commander was quite deceived by the Swedish colours, and approached the schooner to within a short distance. Lieutenant-Commander Sanders then hoisted the British ensign and opened rapid fire upon her. The U-boat was struck twice; but the shells did no serious damage and she submerged. A heavy sea was running at the time, and *D 6*, which was about three-quarters of a mile away, could not get in a shot.

This ended the first part of the action, and at nightfall the *Prize* and *D 6* headed north-westwards with the U-boat stalking them; for the German submarine commander knew by now that he was not in contact with an ordinary topsail schooner and that he might by a successful shot clear the area of a dangerous enemy. He never allowed the *Prize* out of his sight, and after tracking her for several hours, he had ascertained her speed to a knot or less and could adjust his torpedoes to a nicety. There is little more to tell. At half-past one in the morning of the 14th, the second officer of *D 6* saw the *Prize* blow up and sink. The night was dark and squally, and all he saw was the flash of an explosion and the silhouette of the little topsail schooner heeling over into the scud. Not a soul was saved; when day broke the German sailors in the U-boat, and their British captives, saw one man's body and a teak box, for holding gun-sights, floating close together.

These actions, during the month of August, marked one of the most important fluctuations in the ebb and flow of the campaign. The artifices of Q-ship warfare had been tried in three prolonged duels with German submarines, and on each occasion they had failed. After a protracted struggle lasting for over two years the German submarine commanders had obtained an ascendancy, which they never again lost, over this device of their opponents. The explanation is not difficult: Q-ship tactics had been extremely successful against submarines which could be enticed to break surface. But as the struggle between the Q-ship captains and their enemies

developed, the German submarine commanders became less and less inclined to close damaged steamers, and preferred in all doubtful cases to torpedo and sink them without coming to the surface. If the vessel was an ordinary merchantman, it was highly improbable that she would finish her voyage after suffering such damage: if she were a Q-ship, she would at least be off service and under repair for many weeks: Q-ships of the older type would probably sink. In short, thus early in the campaign the U-boat commanders had discovered that they could keep up their record of destruction without giving the Q-ship captains the opportunities for which they were seeking with such skill and audacity. Again, the growing number of armed merchantmen affected submarine tactics in a way which put the Q-ship captains at a further disadvantage. Whenever a submarine commander fell in with a steamer that might possibly be armed he had at once to decide whether he would attack her by gunfire or with a torpedo: and unless his attacking position were exceptionally favourable he would generally choose gunfire. Most of the Q-ships belonged to the class of vessel which the German submarine commanders would ordinarily attack by gunfire, and we have seen, from the details of the *Dunraven's* last fight, that a Q-ship was at an almost hopeless disadvantage in a preliminary gun duel with a German submarine. If she defended herself with all her armament the submarine would immediately submerge and disappear; if she submitted to prolonged gunfire without replying effectively, she suffered damage which seriously affected her ability to fight in the decisive stage of the action.

These changes in the method of attack did not, it is true, affect the tactics of Q-ships which, like the *Prize*, worked in conjunction with submarines. This particular form of U-boat snaring stood by itself. It was necessarily very risky; for the decoy ship which accompanied the submarine was generally a small vessel with little power of resistance; and as the submarine which accompanied her was compelled to submerge whenever a U-boat was sighted, the commanding officer had always to depend solely upon his periscope for manœuvring and aiming during the critical part of the action. It is hardly surprising therefore, that from August 1917 to the end of the war, no German submarine was destroyed by a decoy ship, or by a decoy ship and a submarine working together. Q-ship warfare was, in fact, obsolescent: it was inevitable that it should be displaced by forms of warfare more scientific in their conception and

execution. But it had been waged with a skill and endurance which had provoked the admiration of the entire naval service; and its story will always form one of the most brilliant chapters in our naval annals.

• 3

The Organisation and Working of the Convoy System

With the inauguration of the South Atlantic convoys and of outward convoys from British ports, the complete system of ocean convoy, as contemplated by the Convoy Committee, had come into being. Before attempting to record the results of the system, it is necessary to examine, in a little further detail, the organisation by which it was carried on.

The pivot of the whole system was to be found at the Admiralty, where the programme of sailings was arranged, routes and rendezvous selected, and orders given for the necessary escorts. In the execution of the programme, the chief part was played by the Port Convoy Officers at home and abroad, the Commanders-in-Chief at the destroyer bases, and the Commanders-in-Chief or Senior Naval Officers on those foreign stations in which the ports of assembly lay.

At the Admiralty, the general supervision of the Atlantic convoy system was entrusted to the Assistant Chief of the Naval Staff (Rear-Admiral A. L. Duff).¹ Under his direction the working of the system was centred in the newly-created Convoy Section under Fleet Paymaster H. W. E. Manisty,² who received his appointment as Organising Manager of Convoys on July 25, and the Officer in Charge of the Chart Room, Commander J. W. Carrington. The Organising Manager of Convoys was at first responsible directly to the Assistant Chief of the Naval Staff; but at the end of September 1917, when the Mercantile Movements Division was formed, he passed, with his section, under the Director of Mercantile Movements.

To the Organising Manager of Convoys were entrusted the control of sailings, the preparation of programmes for assembly, sailing and dispersal, the appointment of com-

¹ He was appointed to this position on May 31, 1917: Captain W. W. Fisher succeeded him as head of the Anti-Submarine Division.

² Later Acting Paymaster-Captain. He had been Secretary to Rear-Admiral Wemyss in the 12th Cruiser Squadron during 1914 and 1915. This was the squadron which escorted the first Atlantic convoy of the war: the Canadian troop convoy of 32 ships. Later he was employed in the Trade Division of the Admiralty War Staff (1915-17).

modores, the issuing of orders for escorts, and the general direction of the system so far as organisation was concerned. In the Convoy Section all reports of proceedings and attacks were analysed with a view to profiting by the experience gained, officers in command of convoys were interviewed, general printed instructions to Commodores, Port Convoy Officers, Escort Officers and Masters were prepared and edited. Close touch was kept with the Chart Room, and a special telephone line to the Convoy Section of the Ministry of Shipping¹ enabled the naval and mercantile organisation of convoys to be co-ordinated and adjusted.

The Officer in Charge of the Chart Room was responsible for the routing of convoys, the charting of their position, and their diversion, when necessary, to avoid areas where special submarine activity had been reported. Routes were given by him for all homeward bound convoys through the danger zone, and from September 26 onwards the ocean routes of all South Atlantic convoys were also issued from the Admiralty direct, with a view to avoiding the possibility of collision between inward and outward sailings. The ocean routes of homeward North Atlantic convoys were fixed by the Port Convoy Officers, under the general directions of the Commander-in-Chief on the North American Station; those of outward convoys by the Senior Naval Officer of the port providing the destroyer escort. For the Gibraltar convoys the Senior Naval Officer at Gibraltar was responsible for routing through the local danger zone.

The Port Convoy Officers, appointed to every port of assembly at home and abroad, were responsible for the berthing of ships; the issue of charts, instructions and sailing orders; the supervision of equipment; and generally, for all matters requiring attention between the arrival and sailing of the ships. Those at the home ports worked under the orders of the Senior Naval Officer; at the ports abroad, the Senior Naval Officer in several instances acted also as Port Convoy Officer. Each of these officers was provided with the necessary clerical staff, and at most assembly ports R.N.R. officers were appointed as assistants. The duty of sending on ships from the "outports" to the port of assembly was performed, at home, by shipping intelligence and shipping control officers or by naval transport officers; abroad, by naval vice-consuls or British consuls.

¹ The head of the Section was Mr. Norman Leslie (of the firm of Law and Leslie, Shipowners), who had been liaison officer between the Ministry of Shipping and the Admiralty, and representative of the Ministry of Shipping on the Convoy Committee.

A few days after receiving the route telegram, but, if possible, not less than four days before the sailing of the convoy, the Port Convoy Officer telegraphed a list of ships that would probably be ready to sail on the programme date, together with their destinations, and any special information as to cargo and other matters. If the destinations of any ships were unknown, Convoy Section would then obtain them from the Ministry of Shipping, Wheat Commission, or other responsible authority, and telegraph the information to the assembly port. Any subsequent alterations were communicated by the destroyer escort; but after the first few convoys, every effort was made to communicate destinations in advance, so as to form the convoy in such a manner that it could be dispersed rapidly.

Two days before the sailing date, the Port Convoy Officer made out a final list of ships, and arranged the details of formation. He had already interviewed the master of each ship on arrival, satisfied himself as regards the provision of necessary equipment, such as special signalling gear, fog buoys and communication between bridge and engine-room, and explained the general procedure to be adopted; but on the day before sailing he held a conference of all the masters, at which the commander of the ocean escort was also present. At this conference he explained the general convoy instructions, and the escort officer explained the zigzag to be adopted and any special orders for the voyage. These conferences proved invaluable as a means of securing intelligent co-operation between the Navy and the Mercantile Marine, and of gradually standardising convoy formations and arrangements.

Before sailing, a suitable ship in the convoy was selected to carry the commodore of the convoy. A mercantile master was also appointed as vice-commodore, to take charge in the commodore's absence, or after separation of a "mixed" convoy.

The position of these convoy commodores was an onerous and responsible one. Subject to the orders of the senior officer of the escort, they were answerable for all internal arrangements, such as station keeping and darkening ship. Should the commodore happen, as was generally the case in the Gibraltar convoys, to be senior to the escort officer, he naturally took over the command of the convoy as a whole. So far as possible, particular commodores were kept to one route only, so that full advantage might be taken of their experience, and their staff of three convoy signalmen and one wireless operator was transferred with them from ship to ship. For each other ship in the convoy one convoy

signalman was provided. These at first were lent by the ocean escort, but a special corps of convoy signalmen, largely R.N.V.R. ratings, was gradually built up, and others were lent by the United States navy.

The practical rules for convoyed voyages were of great importance and must be recorded in some detail. The cruising formation of all convoys was in columns of varying depth six to eight cables apart, with three cables between the ships in the columns; but on entering the danger zone and meeting the destroyer escort, the convoy was re-formed, if necessary, so as to give a maximum of four ships in each column.¹ As experience was gained, the tendency was to aim at the broadest possible front in the danger zone, by increasing the number of columns and diminishing the number of ships in each. Even in cruising formation the columns seldom comprised more than four vessels, or five at the most, and in the danger zone the depth was still further reduced. The distance between columns in the danger zone was diminished, after a little experience, to four or five cables only.

In "mixed" convoys, whether in cruising or in danger zone formation, the northern columns were composed of vessels for West coast ports, the southern of ships bound for the Channel, East coast, or French ports. In East coast convoys, vessels for Channel ports up to and including Portsmouth, or for French ports, were placed in the northern columns. The commodore's ship usually led one of the centre columns as a guide.

Immediately the convoy had sailed, the Port Convoy Officer despatched to the Admiralty a "sailing telegram" giving the time and date of sailing, the ocean escort, commodore and vice-commodore, the names of all ships and their places in the columns, the speed of the convoy, the probable date and time of arrival at the destroyer rendezvous, and the secret approach routes given to each vessel for use in the event of falling out and losing touch. It gave also the ocean route by which the convoy would approach the initial rendezvous, so that protection might be provided in the event of a cruiser raid.

On receipt of this telegram, the Convoy Section passed on the information to the Ministry of Shipping, Shipping Intelligence Officers, and other authorities concerned, and also to the Commander-in-Chief, Grand Fleet, and the Senior

¹ Later it was found possible to shorten these distances. The ships in column were two cables apart, the columns four cables apart.

Officer at the port providing the destroyer escort. Detailed instructions regarding the successive courses of the convoy were obtained from the Chart Room, and at least seven or eight days before the arrival of the convoy at the rendezvous, "Destroyer Orders" were sent to the Commander-in-Chief at the destroyer base, specifying the strength of escort required, and the route to be followed from the destroyer rendezvous to the point of dispersal. Copies of these orders were sent for information to all ports in the area through which the convoy would pass. Thus the orders relating to the East coast *HN* convoy would be sent "for action" to Queenstown, Devonport and Portsmouth—the ports providing the destroyer escort and relief escorts—and "for information" to Dover, Falmouth, Milford and Portland, so that outward bound and French Coal Trade convoys might be routed clear.

On receipt of these orders the admiral in charge at the destroyer base detailed the necessary destroyers. The normal strength of the escort became fixed at six destroyers for a convoy of less than 16 ships; seven for convoys of 16 to 22 ships inclusive, and eight for larger convoys. The trawler escorts provided by Milford and Falmouth consisted normally of two destroyers and eight to ten trawlers. Later, P-boats were substituted for destroyers in the Milford escorts. In all except the Devonport flotillas the word "destroyers" must be read as including sloops. For convoy purposes the destroyers were organised, so far as possible, in flotillas of eleven vessels, of which eight were always to be ready for service, and each flotilla, again so far as possible, always met a convoy of the same series.

When the escort was required to take out an outward bound convoy, this was dispersed, as a general rule, at night on the second day out. The escort then steamed straight to rendezvous with the homeward convoy, which it met at daybreak on the following morning.

Outward convoys, dispersing on the edge of the danger zone, were not normally provided with ocean escort, nor was it always considered necessary to appoint a convoy commodore, though an experienced master was usually chosen to act as "guide." When quitting the protected anchorage they were screened by trawlers, drifters and other local forces, and their course was swept in advance for enemy mines.

The destroyer formation, recommended in instructions issued during July, for an escort of six destroyers, and a convoy (inward and outward) in three or more columns, was

as follows: one destroyer about 1000 yards ahead of the port and starboard columns, and two on each flank about 1000 yards from the columns. During daylight the destroyers zigzagged at a speed of about fifteen knots, varying their distance from the columns from about 1000 to 2000 yards. The convoy itself also zigzagged in the danger zone, if speed permitted. In the event of an attack the instructions were for the destroyers which counter-attacked to drop a "mine-field of depth charges" in the last position where the submarine was seen. The convoy itself was to make large alterations of course in order to prevent the enemy from tracking its movements, and after the counter-attack, one or two destroyers were to remain on the spot, to keep the submarine submerged until the convoy was below the horizon.

After the destroyer escort had joined the homeward convoy, the command fell either to the ocean escort or the senior officer of the destroyer escort, according to seniority. The ocean escort herself was originally ordered to take up a position astern of the centre column or columns, and from this position to carry out a broad zigzag. In August, however, new instructions were given that, in order to permit the flanks of the convoy to be more effectively screened, she should become leader of one of the centre columns.

On the voyage from the destroyer rendezvous the convoys were met by rescue tugs, whose duty was to save life and, if possible, ships, in the event of a casualty.

The point of dispersal, to which ships were brought by the destroyer escorts, varied according to the submarine situation. North-about West coast convoys were dispersed on the line Oversay-Inishtrahull, or within the Larne net defences; South-about convoys usually off the Smalls. For East coast convoys the position varied from St. Catherines to the Downs; the latter part of the passage being covered by an escort from Portsmouth, where a flotilla of P-boats was gradually assembled for this purpose. From the point of dispersal the ships, unless otherwise directed, followed the coastal approach routes to their ports of destination. Special protection was often given to groups of ships by one or two destroyers detached from the escort, or by the local forces at Milford, Portsmouth and elsewhere. The ocean escort usually quitted the convoy a little before arriving at the point of dispersal, and proceeded at high speed, with or without destroyer escort, to the port on which she was based, where orders for her next voyage were usually awaiting her.

On the arrival of a homeward convoy full reports were

sent in by the commanders of the ocean and destroyer escorts and by the commodores of convoy. The commodores and ocean escort officers were also interviewed by the Convoy Section at the Admiralty. Reports on outward convoys were also sent in by the senior officer of the destroyer escort and by the commodore, if appointed.

A considerable number of the convoys passing through the danger zone had by now been attacked and had suffered loss. The reports were accumulating, and it was possible to make deductions from them. They proved that convoys were by no means easy to attack when a submarine located them. Even an exceptionally successful attack such as was delivered against the second outward convoy from Buncrana only destroyed two vessels out of a total of twenty-one; but this was not the kind of attack which was ordinarily recorded. The reports showed that when a submarine had revealed her presence near a convoy by a successful or an unsuccessful attempt, she was at once in danger from the destroyer or trawler escort; and that her commander was thenceforward so much concerned for his own safety that it was almost impossible for him to menace the convoy further. Although the general statistics of the convoy system supplied better data for estimating its value as a strategical plan than for calculating the vulnerability of a convoy that had been located and attacked, still these statistics were so striking, that they reinforced the conclusions which could legitimately be drawn from the reports of attacks and losses. Since the system had been started 0.5 per cent. of the vessels in the outward-bound convoys had been lost.

These results were what might be called the first successes of the convoy system. Success of some kind in the campaign against the German U-boats was very much needed, especially in the North Sea; for there, in the inner theatre of the submarine campaign, everything we had attempted had latterly ended in failure. The North Sea, which to the German submarine commanders was a sort of exit and entrance channel to Germany, was to us the arena clearly marked out for any strategical counter-offensive that we could devise. If the German submarines were to be blocked into their ports, or destroyed on their voyages from and to their ports, then it was in the North Sea that it must be done.

Attempts had already been made on both these lines, but with very little success. Admiral Bacon's plan of destroying Ostend and Zeebrugge dockyards by prolonged and methodical bombardments had proved impossible. But he still held firmly to the hope of making the two Flanders

bases untenable for submarines, and substituted a new plan for the old one. He allotted a large monitor to the forces which kept the coastal barrage under patrol, and made arrangements that the commanding officer of the monitor should bombard Zeebrugge or Ostend whenever conditions of wind and weather made bombardment possible. On several occasions the officers in charge of the monitor put their orders in execution, and once at least the bombardment was accurate enough to oblige the Germans to cover the dockyard with a smoke screen. But the total results of these bombardments were quite insufficient to check or even to influence the course of the submarine campaign. After overcoming technical difficulties so great and numerous as to appear on a first inspection quite insuperable, after many months of continuous vigilance and effort, Admiral Bacon's monitor had landed about thirty shells in or near Zeebrugge dockyard and as many more in Ostend.

The endeavour to close the Bight with a quadrant of mines proved equally fruitless. During the spring of the year the Bight was practically encircled by mines, but the German naval command successfully combated the danger. Instead of searching for British mines whenever and wherever they were to be found, they marked and buoyed a certain number of entrance channels and swept them continually. By thus restricting the zones which had to be kept clear they completely thwarted our original plan. Very few U-boats were lost upon the minefields, and although the German submarine commanders were compelled to exercise great caution when they were navigating the entrance channels, the dangers and delays to which they were exposed never brought down the number of U-boats in the operating areas. This, after all, was the test by which the success or failure of the whole scheme had to be judged.

The difficulties of egress were, however, increased to such an extent that in the autumn of the year 1917 nearly every submarine leaving the Bight was escorted by destroyers and auxiliaries. The German sweepers were kept working further and further from their bases, and had occasionally been reported as far north as Harvig beacon. The mining of the Heligoland Bight, originally intended to block the German forces into their bases, was thus actually drawing them into the North Sea, towards a zone where they could be brought to action. An outpost engagement did actually take place on the morning of September 1, in which a force of our light cruisers and destroyers drove trawlers on to the Danish coast and destroyed them. The raid was smartly and rapidly

executed; but it was obvious that operations of the kind had no strategical significance. The quadrant of mines round the Bight would only be a real barrier if, by some means or another, the British forces contrived to make all German sweeping operations impossible. Spasmodic raiding against the outer edge of the field—which was all we could undertake—would inflict occasional losses, comparable to the losses that we occasionally suffered from the German destroyer raids in the Straits of Dover. It could have no possible effect upon the course of the campaign.

4

The Inter-Allied Naval Conference, September 1917

It was decided during August that naval representatives of the Allies should assemble in Whitehall for a conference in the first week of the coming month. If we would adjust the deliberations and conclusions of this conference to their appropriate background it will be necessary to make a preliminary survey of the position at sea. As at the previous conference,¹ the submarine campaign was bound to be the principal topic of discussion; but, whereas in January the campaign had been discussed as a menace with terrible possibilities, it could, in September, be reviewed and analysed in the light of a six-months' experience.

It has been shown that the anti-submarine campaign consisted in a general development of all possible methods of combating the menace, and not in concentrating upon any particular line of policy or special remedy; and that the most important of the special measures taken were the submarine patrols on the exit routes of the U-boats, and the minelaying in the Heligoland Bight.

By the end of August 1917 the effects of these two measures of war were fairly evident. During the past eight months the submarine patrols in the North Sea and the Western approaches had established contact with enemy submarines on 216 occasions; but only one of these encounters had resulted in the destruction of a German submarine. The indecisive, unsatisfactory character of this kind of warfare was brought out strongly by the obstinate struggle which had been waged for months round the North Hinder light-vessel. Minelaying U-boats in the Flanders Bight used the lightship as a navigational mark during their incomings and outgoings; and the British submarine commanders at

¹ See ante, p. 75.

Harwich knew it. There were fourteen meetings of submarine and submarine off the light-vessel in the first part of the year alone; and although both German and British submarine commanders knew the area as a certain meeting-ground, and only approached it after making every possible preparation for an encounter, not one of these fourteen meetings ended in the destruction of a U-boat. As for the minelaying in the Heligoland Bight, we have already seen that although it had affected the strategical position in the North Sea, and had brought about a state of things which might be turned to our advantage, it had not influenced or hampered U-boat operations in the vital areas. In this respect the position in August was the same as the position in April.

The quantities of new anti-submarine material and of new devices delivered since February came to an imposing total, and were illustrative of the immense effort that was being made to meet the danger; but it was very disquieting that, although flotillas fitted with the new material were operating against submarines more rapidly and with better means of detecting them, they were not, so far, scoring any marked success. Yet the appearance of these new weapons was so important a point in the history of the campaign that they cannot be dismissed with a mere summary of results obtained. In a previous volume we examined a typical case of an anti-submarine operation, conducted with the ships and weapons which were ordinarily employed when unrestricted submarine warfare was about to begin.¹ If we would understand how existing methods of war had been altered by six months of intense national effort, it is necessary that we should again analyse some examples which may be regarded as typical.

(a) *Kite balloon operations*.—The first experiment in the use of captive balloons during a regular operation was made on August 19, 1916, when the *Hercules* put up a kite balloon for some hours during the southerly advance of the Grand Fleet. On this occasion no observers were sent up, for the experiment was merely intended to test the towing apparatus; but since then the use of kite balloons had spread with the growth and development of submarine warfare.

In July 1917 at all events, the Commander-in-Chief thought the provision of kite balloons so far advanced that he could employ the destroyers to which they had been fitted in a regular series of operations against submarines. The general idea of these operations was that a detachment

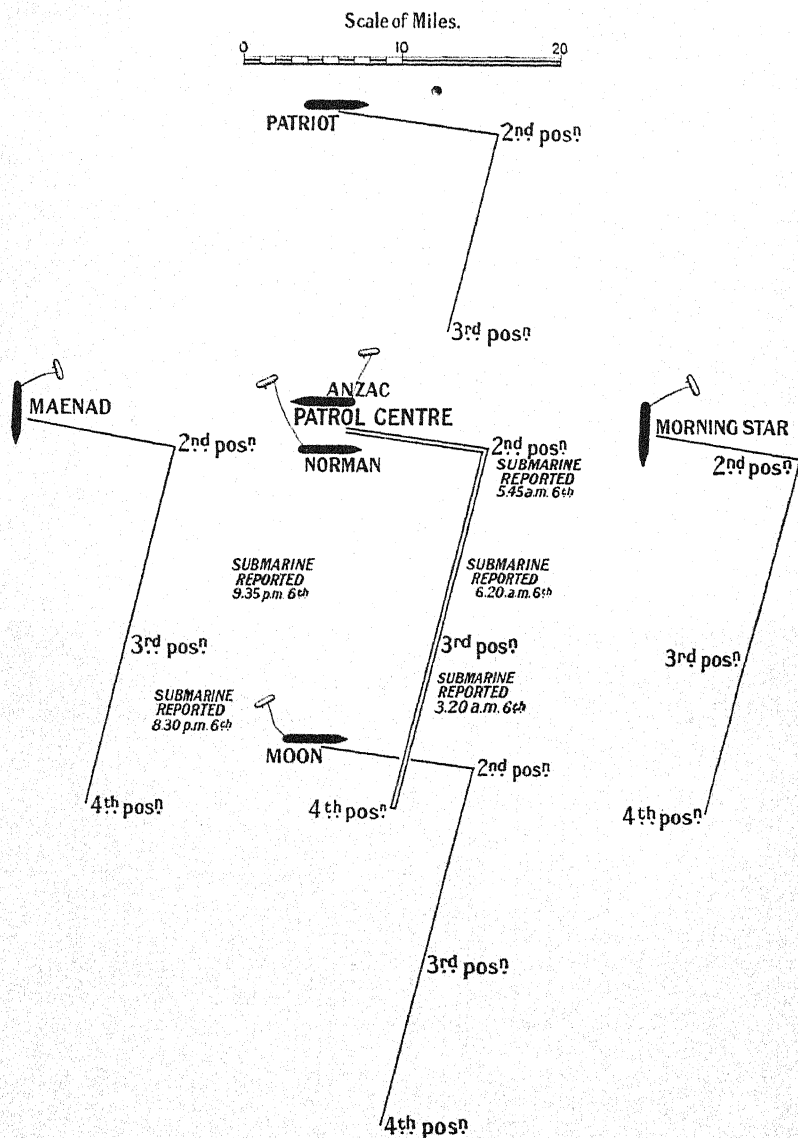
¹ See Vol. IV., p. 338.

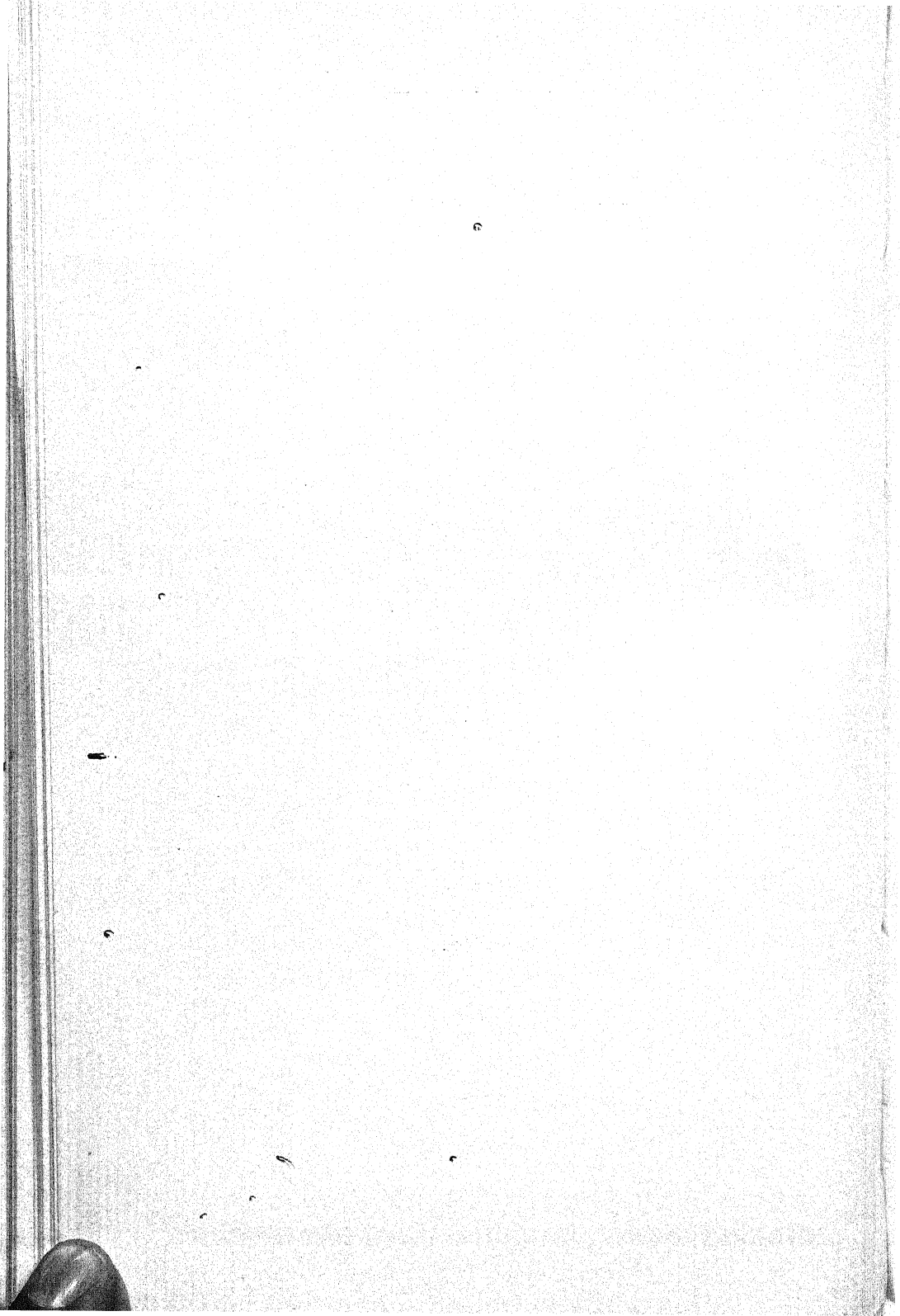
of destroyers fitted with kite balloons should be spread over a section of the route used by German submarines, when they re-entered the North Sea after a cruise in the Atlantic; and that the destroyers should use their increased circle of vision in an experiment in co-operative stalking. The first of these operations was entrusted to Commander Money of the destroyer leader *Anzac* (14th Destroyer Flotilla); the destroyers *Norman*, *Patriot*, *Mænad*, *Morning Star* and *Moon* (11th, 12th and 14th Destroyer Flotillas) were detailed to act with him. At a quarter-past six on the evening of July 6, the force reached the point where the route of the submarines bound for Emden was believed to separate from the route of the submarines bound for the Horn Reefs channel. Here the destroyers were spread, and the operation began (see diagram). Nothing was sighted during the evening; but at a quarter to six on the following morning, the *Morning Star* sighted a submarine to the westward of her; a second observation, obtained at 6.20, showed that the submarine was moving southwards. Commander Money now ordered the entire patrol to move eleven miles to the east-south-east, in order to bring its centre over the position in which the submarine was first reported. The destroyers were in their new stations by about half-past seven; but it was not until a quarter-past three in the afternoon that the submarine was again sighted. This time she was seen from the *Moon*, near the southern edge of the patrol zone; and Commander Money was now convinced that they had located a submarine returning home along the Emden route. He therefore moved the whole patrol fifteen miles to the south-south-west; some time afterwards he ordered the destroyers to move ten miles in the same direction at nine o'clock. This second move to the southwards would, he hoped, ensure that the submarine should be inside the patrolled zone at daylight on the following day.

At half-past eight the *Mænad* reported a submarine on the western side of the patrolled zone, and, an hour later, the *Patriot*, whilst moving to her new station reported a submarine in a position about ten miles to the north of where the *Mænad* had reported one. Commander Money decided that the *Mænad* and *Patriot* had probably sighted another submarine moving north, and decided to continue on the track of the submarine that his destroyers had been chasing all day. He did not therefore cancel the general movement to the southward, but directed the *Patriot* to maintain a special patrol near the position where the submarine had last been sighted. But at daybreak on the

ANTI-SUBMARINE OPERATIONS.

July 5th - 8th, 1917.





following morning nothing was in sight, and throughout the 7th and 8th the observers in the kite balloons saw nothing: towards evening on the 8th, supplies of hydrogen and oil were beginning to run low, and the destroyers returned to Scapa.

The operation had thus ended in the persistent dogging of a single submarine; for the U-boat sighted in the early morning of the 6th by the *Morning Star* had not cleared the zone covered by the patrol until nightfall, and whenever she had come to the surface she had been sighted and followed. This was an immense advance upon the system of sending destroyers to institute searches for submarines on the basis of reports which were already twelve, eighteen or twenty-four hours old when the searching destroyers received them.¹ But if such an operation is placed in the general perspective of the submarine campaign, it is not difficult to see that its total effects and consequences were extremely small; and that, even though ten such operations had been proceeding simultaneously, their combined effect would not have been great. A force of six destroyers had in this case compelled a single German submarine to navigate with great caution, and to remain submerged for many hours during one single day; but as during July the average cruise of each U-boat lasted about twenty-five days, it follows that her operations could only be very slightly affected by the activity of a kite balloon patrol dogging her for some twelve hours during the first or last part of her voyage. Such specially devised operations, carried out by specially constituted detachments of ships, were bound, in the nature of things, to be spasmodic and interrupted: whereas submarine warfare against merchantmen was absolutely continuous. Though the point and the intensity of the attack might not always be the same, the attack itself never ceased; on every day of the year merchantmen were being attacked and sunk at some point near the British Isles, or in the Atlantic or the Mediterranean. It became obvious that a measure of war which has become almost departmental in its regularity is not likely to be thwarted or even set back by measures which are in their nature intermittent.

(b) *Hydrophone operations*.—It was shown in a previous chapter that a German submarine, operating in a given area, must always possess an immense advantage over the forces detailed to attack or chase her, unless these pursuing forces could be provided with exceptionally accurate and up-to-date information of the submarine's position and movements.

¹ See Vol. IV., p. 338.

It was shown, also, that the ordinary system of intelligence, which consisted in sending out orders and instructions to hunting flotillas based upon information that was often two days old when it reached the operating forces, gave them no data for constructing any tactical or strategical plan for countering or even checking a U-boat's devastations.¹

The hydrophone, a delicate and subtle device for detecting the sound made by a submarine, and the direction from which it came, was, in a sense, a mechanical solution to a problem which had baffled our anti-submarine forces since the war began. By the early autumn of 1917 great progress had been made, both with the device itself and its supply to the patrolling craft.

In the middle of June the Admiralty gave orders that hydrophone hunting flotillas, each of which was to be composed of six motor launches provided with hydrophones, were to be constituted at Newhaven, Portsmouth, Portland and Dartmouth. Two launches in every group of six were also fitted with wireless telegraphy, so that the flotilla might keep touch with the local air patrols. Shortly afterwards the Admiralty gave orders that four trawlers should be fitted with hydrophones in twelve of the coastal patrol areas, and that they should operate together as a hunting flotilla.² Meanwhile successful experiments had been carried out with an improved pattern of hydrophone, which could be towed astern of the patrolling vessel, and the Admiralty were so impressed by the promise of this new device that they ordered two hundred vessels to be fitted with it. Such hopes were entertained of it that the Admiralty were seriously considering an elaborate plan for instituting a hydrophone patrol of sixty trawlers reinforced by destroyers, P-boats, sloops and submarines, between Norway and Peterhead.

This project, important in itself, is made doubly so by the professional comments which it provoked. It often happens that a chance remark, from a high authority, which may be either thrown out at random, or noted down almost by accident, throws a shaft of light upon current questions of strategy and policy. If by good fortune the documentary records of a campaign contain several indications of the kind separated by a good space of time, one can learn how

¹ See Vol. IV., pp. 338 et seq.

² The Auxiliary Patrol areas in which these hydrophone patrols were organised were: Nos. II (Orkneys and Shetlands); V (Peterhead); VI (Granton); VIII (Tyne); IX (Humber); X (Yarmouth and Lowestoft); XII (Portsmouth); XIII (Portland); XIIIa (Devonport); XV (Milford); XVIII (Lough Swilly); XXI (Queenstown).

professional opinion has moved, during an interval, by juxtaposing two or more of them.

The Admiralty appreciation of submarine war, issued at the beginning of the year,¹ and the general summary of the position at sea which was attached to the project for setting up a hydrophone patrol across the North Sea, may be regarded as belonging to this kind of record. Anybody who compares the two documents is bound to realise that the high naval authorities had cleared their minds of doubts and uncertainty during the seven months which had gone by since the first appreciation was prepared. In January the Admiralty could do little more than declare that they had committed themselves to an immense process of experiment, to be carried out without relaxation wherever British ships and German submarines were operating. The language of the memorandum circulated with the proposals for a Norwegian-Peterhead patrol shows that high authorities were forming the opinion that the "remedy" for submarine warfare—which Mr. Balfour, a few months before, had spoken of as almost undiscoverable—was at least to be looked for along one or two well-defined lines of search, instead of in every direction. "The facts are," ran the memorandum, "that from July 1st to August 1st there were, on an average, roughly two German submarines a day on the Lyngvig-Shetlands line. . . . This being so, it really appears essential that the question of instituting some special service to deal with submarines on that part of their journey that lies between Jutland and the Shetlands should be considered. The situation is so critical, the need so clear, and the area in which the enemy can generally be found so well known that a special effort seems opportune—special in the sense that special vessels should be collected, based specially, commanded specially, and with one special object in view, the hunting of enemy submarines. It will at once be said: 'How can enemy submarines be hunted? Nothing has yet been produced to enable a submarine to be hunted.' This is no longer true. Reports come in daily of hunts by hydrophone in the Channel and elsewhere, extending over hours. Further, the kite balloon is a new and powerful factor in the submarine hunt, and they are becoming available in some quantity now." Words like these are beacon-marks in an intricate channel traversed by baffling cross currents: they show that professional opinion was turning towards the idea of a concerted anti-submarine drive, carried out as a major operation in the narrow part of the North Sea and pushed ruthlessly towards the German

¹ See Vol. IV., p. 325.

bases. Six months before, naval policy had not been expressed with anything like such decisiveness and precision.

But if the actual achievements of the hydrophone flotillas—which were the foundation and starting-point of the hopes expressed in this vigorous memorandum—are carefully examined, it must at once be admitted that the Admiralty's appreciation pointed rather to a desirable experiment than to an immediately realisable project. When the memorandum was written, six operations of the Channel hydrophone flotillas had been considered of sufficient importance to be reproduced in the monthly summary of submarine warfare published by the anti-submarine division. In the first, carried out on July 20, four motor launches of the Newhaven flotilla had tracked a submarine by the indications given in their hydrophones for a distance of about six miles. They had never actually located her and had been obliged to abandon the chase because the sea got up slightly and the hydrophones ceased to give any indication.

The second of these operations was bigger and more concerted. A German submarine had been located near Lyme Bay on July 20, and again on the 22nd. On the following day there were indications that the submarine was still in the same area, and by the afternoon the Commander-in-Chief had put a considerable force of local vessels on to her track. The destroyer *Sunfish* of the local defence flotilla, the Devonport drifters and the hydrophone motor launches from Dartmouth occupied a position to the east of Berry Head; the trawler patrol was spread along a line which ran from the centre of Lyme Bay to the south of Start Point. At about the time when the patrols and the motor launches reached their station, lines of mined nets were laid out near Dartmouth and the Eddystone. To complete the dispositions, a seaplane was ordered to patrol the western end of Lyme Bay. The trawlers and the motor launches were ordered to drift with their engines stopped throughout the night; and it was hoped that the north-easterly set of the flood tide would carry them towards the centre of Lyme Bay, where the submarine was believed to be lying on the bottom.

The patrol craft occupied their positions at dusk without a hitch, and the weather was admirable for the work in hand; it was a fine almost windless summer night. Early in the morning the man listening through the hydrophones in motor launch No. 211 heard sounds which were unmistakable: somewhere in the darkness to the eastward a submarine was starting her engine. The commanding officer went off at once in the direction of the sound, and a few

minutes later the submarine loomed out through the darkness. He at once opened fire and the submarine submerged, but the U-boat was now so well located, and the forces available for attacking and pursuing her were so numerous, that the chance of destroying her seemed exceptionally good. What followed showed how carefully the tactics of a hydrophone flotilla had to be thought out; and how a slight departure from the correct tactical procedure might ruin a promising situation in a few moments. On hearing the sound of gunfire the officers in the other motor launches hurried towards No. 211: the noise of their engines at once swamped all other sounds in the hydrophones, and the submarine escaped undetected.

The other examples of hydrophone operations reported in the Admiralty's monthly summary told the same story. At two o'clock in the afternoon of July 29 a hydrophone flotilla detected a submarine near the Arklow Bank light-vessel: they tracked her for over two hours on slight and doubtful indications in the receivers, when the noise of the submarine's engines was lost in the noise of the passing traffic. A week later—August 6—the Portland Hydrophone Flotilla picked up indications that a submarine was to the north-eastward of them. For the rest of the afternoon, and intermittently during the following night, the commanding officers continued to get signs that the U-boat was still in the neighbourhood. The indications were very vague and uncertain until just before midnight, when it seemed practically certain that the submarine was to the north; but when this was definitely ascertained a thick fog came down and the flotilla had to be closed in. They continued to grope after the submarine through the mist; but the first condition of a successful hydrophone hunt—that the launches should be well spread—was no longer being fulfilled. The indications became fainter and more unreliable, and in the early morning of the 7th all trace of the submarine was lost.

In short, all operations carried out during the summer of the year by flotillas fitted with hydrophonic mechanism seemed to bear out the general inference that was to be drawn from the examples selected. If properly employed the new device might give the vessels using it a decisive tactical advantage in an area where a submarine was known to be operating; but if it were extensively employed in any large strategical plan of submarine detection—such as the project for establishing a hydrophone patrol between Peterhead and Norway—the difficulties of employing it successfully would be multiplied a hundred times.

(c) *The general position in September 1917.*—These then were roughly the results of the special measures which had been a sort of backbone to the general plan adopted when the submarine campaign began. With regard to the general fluctuations of the campaign the position was hardly more satisfactory. It is true that the curve of losses had never again reached the enormous total of April; and though it still rose and fell its tendency was to go down. But the monthly total of shipping lost was still far in excess of what the Allies could replace and, on that account, the prospect was still extremely gloomy. We had contrived by the use of expedients to live through what will perhaps rank as one of the greatest crises in British history; but the efficacy of these expedients must end at dates which were almost calculable. We had saved tonnage by concentrating ships upon the shorter North American route, by withdrawing British tonnage from purely foreign trade, and by a system of drastic import restriction. These measures had, in Sir Norman Hill's words, given us a breathing space; but it was quite obvious that such expedients could only operate for a certain time; the excess of losses over replacements must, in the end, swallow up the tonnage saved by these special measures, and then the breathing space would end in national asphyxiation.

The campaign against the U-boats was therefore still unsatisfactory. Quite recently the German submarine commanders in the western area had turned the tables upon our Q-boat captains and had defeated them decisively.¹ During July and August we had destroyed eight German submarines, and the enemy had lost two more by accident; in the same period the German yards had delivered twenty-three new boats. That is to say, that the campaign was still going strongly against us in that our monthly destruction of submarines was less than half the monthly deliveries of new boats, while the monthly destruction of British shipping was far in excess of the monthly building. Our offensive measures were not sufficient to check, or even retard, the operations of the German U-boats; and our defensive operations were still not sufficiently embracing to bring down the monthly list of losses to a bearable figure.²

It was extraordinarily difficult to make any forecast of the future of the campaign: the chances of an improvement or a change for the worse seemed well balanced. It was not a very good omen that the Germans were maintaining the attack upon the outer routes without check or hindrance.

¹ See ante, p. 110.

² See Map 1.

Lieut.-Commander Meusel (*U 155*) was finishing his cruise in the Azores-Canary zone, and Lieutenant-Commander Kophamel was moving out to relieve him in *U 151*. Meusel had never once, during his entire cruise, been engaged by anything but armed merchantmen: our protecting forces had never reached, far less located, him, and there was every reason to suppose that unless some special measures were taken to defend the area, Meusel's successor would operate with equal freedom. The sinkings by these oceanic submarines were not, it is true, particularly serious—compared with the losses in the western approaches they were insignificant; but it was extremely serious that the German U-boats had established themselves in a nodal point of the trade routes, not as furtive visitors like the *Moewe*, but as permanent occupants. If their total submarine tonnage continued to rise, we could be sure that this attack on the outer routes would increase proportionately.

The entries on the debit side of the British balance sheet were thus extremely heavy. The excess of British shipping losses over deliveries, the excess of German submarine deliveries over losses, the failure up to date of our mine-laying policy in the Bight; the inability of our submarine patrols to inflict serious damage; the defeat of the Q-boats in the western area, and the success of the German attack upon a great joining point of the Atlantic trade routes, made up a heavy total on the adverse side. The entries on the other side of the account were more in the form of promising investments than assets immediately realisable. Yet no thoughtful man could doubt that they were of great value. First, and most important, the convoy system, so far as it had been applied, was an unqualified success. The loss of shipping on routes which had come within the scope of the system had been extraordinarily small;¹ and—what was equally important—Sir Leo Chiozza Money's plan of concentrating traffic upon the North Atlantic routes was bringing more and more vessels on to the protected routes. Those who had been responsible for elaborating a workable system of convoy had now succeeded to the extent of overcoming their own doubts, and were confident that the convoy system, when expanded, would thwart and defeat the submarine campaign. But their confidence was the confidence of pioneers and specialists: it was not entirely shared by the high authorities whose survey was still bound to include all possible supplementary methods.

It may here be noted that although the total results of

¹ See post, p. 139.

the offensive campaign against the U-boats were up to now unsatisfactory, there was at least one good reason for hoping that the fortunes of the campaign might improve in our favour. It was a remarkable and most hopeful fact that one-third of the German submarine losses during the past two months had been caused by attack from the air.¹ This was the newest, the least developed item in the general campaign against the German U-boats; and it was a method of attack which was capable of very great development.

(d) *The discussion at the Inter-Allied Conference.*—The chief Admiralty representative was no longer Sir Edward Carson, who had filled the office as First Lord since the beginning of the year. His place had just been taken by Sir Eric Geddes, the Controller under the old Board. Also, Vice-Admiral Sir Rosslyn Wemyss had just been made Deputy First Sea Lord. These were the only changes; Vice-Admiral Sir Henry Oliver, Rear-Admiral Duff, and all the Naval Lords who had served during the last seven months of anxiety and strain were still at their posts in Whitehall.

The situation had not cleared up since they first took office: the submarine campaign was still undefeated; the German submarine commanders were destroying more tonnage than could be replaced; and though it was possible it was still not certain that the measures then in force would turn the campaign in our favour. In these circumstances it was natural that the delegates should concentrate their entire attention upon seeking for some plan of war which was likely to prove a final remedy.

Admiral Jellicoe had two alternative plans to lay before the Conference. The first was that the Allies should conjointly undertake a stupendous blocking operation against all the German harbours in the North Sea and the Baltic.

¹ The German submarine losses were :

1. By British action.

U 69, 12.7.17. Kite balloon destroyers: depth charges.

U 61, 24.7.17. Seaplane and bombs.

UB 23, 26.7.17. P-boat and depth charges. So damaged that she put in at Corunna and was interned.

UB 27, 29.7.17. Rammed by gunboat *Halcyon* and destroyed with depth charges.

UB 20, 29.7.17. Seaplane and bombs.

U 44, 12.8.17. Rammed by destroyer *Oracle*.

UB 32, 18.8.17. Seaplane and bombs.

UC 41, 21.8.17. Trawlers and depth charges.

2. By misadventure.

UC 61. Stranded and surrendered.

UC 44. Blown up whilst laying her own mines.

The Admiralty, after examining this project in detail, had come to the conclusion that the entrances to all German harbours might be blocked, if a force of forty old battleships and forty-three old cruisers were assembled for the purpose. It was admittedly within the power of the Allies to collect this force from their second line fleets; and the delegates had no doubt that, if the operation were ever decided upon, each party in the alliance would make its contribution. It was upon the question of feasibility that opinion was sharply divided. Admiral Funakoshi, the Japanese delegate, who had a close and intimate knowledge of the Japanese attempts to block Port Arthur, was particularly doubtful whether the operation could ever be successful, and the majority of the delegates seem to have shared his doubts. There were indeed serious technical objections to the scheme. A sunken battleship or cruiser can only block a navigable channel at one particular point; and when the position and extent of a submerged obstruction are known, engineers can practically always find a means of clearing a way round it by dredging or blasting, or both. A more serious objection was made to the use of old cruisers for such a purpose. Great Britain and the United States were, at the time, making every effort to extend and develop the convoy system; and when reporting to the Conference, Admiral Jellicoe was careful to say that the shortage of cruisers was a great obstacle to making the system more embracing. The Allied delegates were not prepared to agree to a blocking operation, speculative and doubtful in its results, which would permanently deprive them of the means of giving protection to ocean traffic. The proposal was the more readily allowed to drop as another similar suggestion appeared more easy of realisation.

This second alternative was that the northern entrance to the North Sea, between the Shetlands and Bergen, should be blocked by an immense minefield. In presenting this project to the Conference, Admiral Jellicoe admitted that the minelaying in the Bight had hitherto been unsuccessful, as the Germans had located our mines and swept up those which obstructed the free movement of their U-boats. The minefield which he now proposed would be out of reach of the German sweepers, and would be maintained as a permanent obstacle. The Conference raised no objection to the plan, and indeed endorsed it; but long technical preparations were necessary before it could be put into execution. First of all, as Admiral de Bon, the French delegate, insisted, the Allies must be absolutely satisfied that the mine used was of a sound and suitable design; for Admiral Jellicoe, in his

opening statement, had admitted that the failure of British minelaying in the Heligoland Bight might partly be attributed to faults in the pattern of mine we had been using. The question of supply was equally important. Admiral Jellicoe estimated that one hundred thousand mines would be needed to complete the minefield. British industries, which were working at full pressure and with depleted staffs to meet the immense calls of the three services, could not supply so large a number of mines rapidly. The factories of the United States would therefore have to assist us liberally if the minefield were to be laid rapidly and effectively, instead of slowly and by instalments.

The Conference then reviewed the existing methods of operating against submarines without expressing any serious criticism of what was then being done, and without making any novel suggestion. Vice-Admiral Cusani-Visconti strongly advocated repeated aerial attacks upon submarine bases, and strong coastal patrols of aircraft; and he was able to show that the Italian navy had frequently used these methods of attack with success. But the Italian anti-submarine campaign was mainly carried on in the enclosed waters of the Adriatic: the problem which confronted the British and French navies was that of operating successfully against submarines which had reached the open waters of the Bay of Biscay, the Eastern Atlantic and the Western Channel. However effective air patrols might be in enclosed waters, they could be of little use in operations for ensuring the security of many thousand square miles of water.

The contrast between the two problems was particularly marked when the conference considered the dangerous spread of the submarine attack in the North Atlantic. Admiral Jellicoe opened the subject with a long and careful statement of the Admiralty's plans for checking the operations of the large submarine cruisers of the *Deutschland* type; and when he had finished, Admiral Cusani-Visconti said at once that he had been taking part in the discussion as the representative of a Mediterranean people, and could only speak with diffidence upon the oceanic problems of submarine warfare. As one of the delegates had so freely and generously acknowledged that national habits of thought may penetrate even into the discussion of a severely technical problem, it was fitting that Admiral Sims, the representative of a great Atlantic Power, should have spoken decisively on the defence of the Atlantic trade routes. At an earlier stage of the Conference, Admiral Sims had referred to the convoy system as a genuinely offensive measure, in that it compelled the

enemy submarine to fight at a disadvantage. He now elaborated the statement which he had previously made. Admiral Jellicoe had suggested that ocean-going submarines could best be dealt with by establishing a wireless station and intelligence centre at the Azores, and by setting up an ocean patrol of decoy ships and submarines: Admiral Sims reviewed the position from a different standpoint. Was not the future of every form of anti-submarine warfare bound up with the extension and development of the convoy system; in fact, was not this system the one and only method of placing the U-boats on the chess-board of submarine warfare in a position of strategical and tactical checkmate? Admiral Jellicoe's suggestions, if adopted, would possibly give merchantmen in the Azores area a better chance of escaping from a submarine armed with a six-inch gun; but was it wise to treat the problem from this purely technical aspect? To Admiral Sims the question which called for immediate consideration was what reply the enemy would make to the convoy system, when he realised that it was likely to bring the whole submarine campaign to ruin. It was not likely that the enemy would entrust his counter-attack solely to submarine cruisers armed with six-inch guns; he might, on the contrary, be expected to make a determined attempt to break up the whole convoy system by attacking it with heavy, powerful ships. "To counteract that," concluded Admiral Sims, "you have got to do one of two things: either you have got to convoy with Dreadnought battleships, or else you have got to make the best terms of peace you can."

These remarks made a great impression upon the Conference; and it is not difficult to understand why they did so. To us who now view submarine warfare from a point of vantage from which the great features of the campaign are seen in sharp outlines; who can perceive the data of a vast problem of maritime strategy in a mass of daily incidents, which, at the time, seemed no more than a disorderly succession of disasters, the convoy system appears naturally, and inevitably, as a decisive counter-attack against the German warfare upon merchant traffic. But in September 1917 the leading naval authorities were by no means inclined to give the convoy system this pre-eminent position amongst the many other measures of anti-submarine warfare which they were trying. To them, the convoy system was an item on a list, a measure amongst many others; and Admiral Sims must be given the credit of being the first naval expert in high position who had the insight to realise that the remedy for which the Allies were still seeking had actually been found.

The Conference served to show the Entente Powers how much they would have to depend upon American assistance for improving the position at sea; and on September 22, Admiral Jellicoe handed the American naval representative in London a request for further help. The reply, received a month later, was conceived in the generous spirit which had been so characteristic of the American attitude towards the Allies' calls for assistance. The Washington Navy Department answered that they could not agree at once that the actual mine barrage proposed by Admiral Jellicoe was the best that could be devised; but as they approved absolutely of the general policy of laying great minefields across the North Sea, they had at once ordered 100,000 mines from their contractors, and would requisition as many vessels as would be required for completing whatever operation was finally decided upon. With regard to the convoy system, the Navy Department had at once allocated four additional cruisers to convoy duty, and would provide several more when the reorganisation of their cruiser forces was completed. In addition to these reinforcements, they would at once send a patrolling force of submarines and a monitor to the Azores, to check the depredations of the German submarine cruisers on the outer trade routes; and would "co-operate to the fullest extent" in setting up a wireless station and intelligence centre in the islands.

5

The Convoy System, September

No further change in convoy organisation was made within the period covered by this chapter, except that, as from September 21, the outward convoys from Lamlash were arranged alternately to take out ships with a minimum speed of ten and eight knots respectively. To fit in with the homeward *HN* and *HH* or *HS* convoys, these outward convoys were now sailed with a two-day interval between the fast and slow convoys, and eight days between any two convoys of each series.

In all, it was now necessary to provide ocean escorts for seven Atlantic convoys. The duty of providing the destroyer escorts fell upon the Buncrana, Queenstown and Plymouth commands, whose forces had been successively readjusted to the new situation during the summer. At the end of September, when the convoy system was in full working order, the following escort and patrol forces were allocated to each of these commands.

| <i>Buncrana.</i> | <i>Queenstown.</i> | <i>Devonport</i> |
|-----------------------------|--------------------|------------------|
| 13 sloops, | 12 sloops, | 36 destroyers |
| 27 destroyers | 1 light cruiser, | (4th Flotilla), |
| (2nd Flotilla), | 36 destroyers | 4 destroyers |
| 3 destroyers (G.F.), | (U.S.A.), | 8 torpedo- |
| 13 submarines | 4 torpedo boats, | boats, } (local |
| (<i>Vulcan</i> and | 9 minesweepers. | defence) |
| <i>Platypus</i> flotillas), | | |
| Seaplane carrier. | | |

The readjustments which had ended in this distribution of forces were carried out by the following successive steps.

Sixty-six destroyers had been detached to the three western commands in order to meet the new situation. Of these Great Britain had provided thirty; fifteen were detached from Portsmouth and Dover; nine were released from the Grand Fleet by the delivery of destroyers of a later type; and six were moved up from Gibraltar. The United States provided the remaining thirty-six by their prompt and energetic answer to our appeals for help; and it is this reinforcement which must be looked upon as the final contribution which made the new allocation of forces possible. From the same source we also received valuable co-operation in the provision of ocean escorts. The United States Navy took care of the majority of the New York convoys, and by the end of August, six American light cruisers were engaged in this service, to which a seventh was added during the following month.¹ The main burden of providing ocean escorts continued, however, to fall on Great Britain. It was met by making further detachments from the 10th Cruiser Squadron,² and by breaking up the 2nd Cruiser Squadron. The three ships of this squadron³ were transferred, during August, to the North American Station, and the force at Admiral Grant's disposal was further strengthened by the *Cornwall* on her completion of refit. Two additional commissioned escort ships were also brought into service.⁴

By September 30 the total number of ships definitely allocated to ocean escort duty in the North and South Atlantic was forty-three; twelve cruisers, nine light cruisers (of which seven were American), fifteen armed merchant cruisers, and

¹ *Albany, Cleveland, Chattanooga, Des Moines, Denver, Tacoma*—August. *New Orleans*—September.

² *Arlanza, Armadale Castle, Gloucestershire, Moldavia, Motagua, Kildonan Castle, and Patuca* were detached during August and September.

³ *Achilles, Cochrane, Duke of Edinburgh*. (*Achilles* did not join till September.)

⁴ *Mechanician, Wyncote*.

seven commissioned escort ships. Fourteen out of seventeen cruising ships now comprised in the North American and West Indies Squadron were absorbed by escort duties, including the three taken over from the 2nd Cruiser Squadron; four ships in the 9th Cruiser Squadron were similarly employed, and of twenty-two ships nominally comprised in the 10th Cruiser Squadron, eleven had been detached for convoy duties.¹

For ocean escort to the Gibraltar convoys eight vessels were employed;² but towards the end of September, in view of intensified submarine activity to the west of the Straits, it was decided to send out six of these vessels to Gibraltar, for use in the danger zone, their place as ocean escorts being taken by United States vessels of the lighter type.³ This arrangement did not, however, come into force until later.

6

The First Results of the Convoy System

If the Inter-Allied Naval Conference had assembled at the end of September instead of at the beginning, the decisions of the delegates would, probably, have been the same, and possibly their discussions would have proceeded on the same lines. They would, however, have met with a rather different outlook upon the future of the war at sea; for the month of September was, in some respects, the month in which the flood-tide of German success seemed for the first time to be slowing down towards a period of slack water, possibly even towards an ebb. The change which came over the war at sea during the three weeks after the Conference was a subtle one, perceptible only to those capable of seeing the general drift of events through the succession of daily occurrences; but a change did take place, and probably none were more conscious of it than the captains of the large U-boats which operated in the western area. This statement must be justified by a brief retrospect.

Between February and August the Admiralty had reorganised the coastal route in the Channel and strengthened the patrolling forces allotted to it; they had set up submarine

¹ See also Appendix A II, (a) and (b).

² *Rule, Acton, Laggan, Marshfort, Puma, Underwing, Tamarisk, and Duke of Clarence.* *Dundee* had been sunk.

³ The gunboat *Sacramento* and revenue cutters *Seneca, Ossipee, Manning* and *Yamacraw* were originally designated for this service. In addition to these vessels, the light cruisers *Birmingham* and *Chester*, the armed yacht *Nahma*, and the revenue cutters *Algonquin* and *Tampa* were eventually used.

patrols in the North Sea and on the west of Ireland; they had laid immense minefields in the Heligoland Bight; they had fitted a large number of destroyers, P-boats and aeroplanes with acoustic and visual devices and had assembled them as hunting or attacking patrols near the routes which the German submarines were known to be using. These measures taken collectively had lowered the monthly total of sunken merchant ships, but they cannot be said so far to have caused the German submarine commanders to alter their tactics or procedure in any important particular. Anyone who searches the records of their cruises during the months when all these counter-measures were being tried, or operated, will find, week after week, month after month, nearly the same number of U-, UB- and UC-boats working in nearly the same areas. The almost monotonous regularity of their proceedings during these critical months is perhaps the strongest existing proof that our counter-measures were as yet practically ineffective. For a scheme of operations which, though designed in a purely offensive spirit, does not compel the enemy against whom it is directed to take any special precautions, and leaves him free to carry out his original plan without substantial alteration, can only be regarded as a scheme which has not yet succeeded.

In September this state of things comes to an end; for it was in September that the U-boat commanders changed their tactics for the first time since the campaign began. The change was not a startling one: it was only that they abandoned areas which they had found fruitful for months, and shifted their principal operations eastwards into the Channel and southwards into the Bay of Biscay. But this change of plan is the first visible, salient result of our counter-measures. For the first time since submarine warfare began the U-boat commanders were confronted with a form of opposition which threw their plan of attack completely out of gear. During September our arrangements for running convoys in the North Atlantic were completed; and the route of the convoys passed straight through the approaches to Scilly and to Land's End, which had been the principal zone of U-boat operations for months past. When these convoys began to run regularly it must have appeared to the German submarine captains as though an area which up to then had been crowded with defenceless shipping had been suddenly evacuated. Thinking, probably, that their attack had been momentarily evaded by a great diversion of shipping, they moved to other areas in order to try to discover the new points of traffic concentration. They did

not know that, far from being emptied, the zones to the west and south-west of the Scillies and to the south-west of the Fastnet were more crowded with traffic than they had been in the days when their devastations were most easily executed, when their daily records were filled up with entries of ships sunk, seamen drowned and boats destroyed. What was to tell them that through the very zone which they were abandoning as no longer fruitful, the indispensable British merchant fleet with all its vital cargoes was passing unobserved and in increasing numbers?

Our total losses for the month were, indeed, lower than they had been since the campaign started. The German Government claimed to have sunk and destroyed 672,000 tons of shipping, whereas they had, in truth, only sunk some 350,000; but the exaggerated figure was in itself an admission that the rate of destruction of the March and April period had not been maintained. The official commentators upon the campaign had, moreover, become quite silent about the approaching end of the war; the assurance that England would be utterly prostrate in a few months was completely dropped; and the Government were now seriously attempting to float a new issue of argument, secured, it is true, on the same assets: the credulous patience of the German public.

Captain von Kuhlwetter was perhaps the most persuasive of the German Government's agents. In a long article in the *Kölnische Zeitung* he insisted, first, that Great Britain's defence measures had been far less effective than had been expected, and that, in consequence, the destruction of British and neutral tonnage would continue at its present rate. This must, sooner or later, create a crisis; but the crisis could not reasonably be expected before December, as the English harvest would enable the British Government to get over the intervening autumn months. But when the December crisis arrived, what would be its nature? A catastrophe to the Entente? The collapse and ruin of Great Britain? Far from it: these prophecies belonged to the apostolic period of submarine warfare; the later disciples preached a very different creed for the hope and encouragement of the German faithful. In December, Great Britain would be compelled to withdraw some 2½ million tons of shipping from military uses; and as she would be compelled to withdraw another half million by April, it was inconceivable that Great Britain should continue the war after the spring. The immense difference between the prospect now held out to the German people, and the promises made

to them when the submarine campaign began, was apparently expected to pass without comment.

The Germans were not, perhaps, in a position to conclude what method, or methods, of war had broken down the hopes which Holtzendorff and his staff had so recklessly raised at the beginning of the year; but the British authorities at all events were well able to take stock of those measures which had most assisted their own nation in the perilous months of the spring and summer. Of these, convoy was by far the most important. It had only just been put, more or less completely, into operation; but by the end of September it was possible to summarise results and make reliable deductions as to the future effect of the system.

Taking together the North Atlantic, South Atlantic and Gibraltar systems, eighty-three ocean convoys had been brought in by September 30, 1917; and of the 1306 merchant ships which had made up these convoys, 1288 had been brought safely into harbour; eight ships had been sunk whilst out of convoy, and ten while actually under escort.

During the same period fifty-five outward convoys had been dispersed, comprising 789 ships, of which only two had been sunk. In all, excluding vessels sent back to port, 2095 merchant vessels belonging to 138 convoys had passed through the danger zone, with a loss of twenty.¹

The effect of the system and of the Scandinavian and French Coal Trade convoys was seen in a reduction of the war losses of British shipping from an average of 438,000 tons a month for April,² May and June, to 330,000 tons in August and 196,000 tons in September. In June, the last month before the introduction of regular ocean convoys, 173 British and foreign steamers of 500 tons gross and upwards were sunk by submarines. In September, the first whole month during which the complete system was in operation, the casualties were reduced to eighty-seven, or just half the former number.

It may possibly be questioned whether this marked decline should be attributed solely to the introduction of convoy; but there can be little doubt that the convoy system had been mainly responsible for it. The successes gained in our attack upon the German submarines were not in proportion to the decline in the sinkings. In July six submarines had been sunk, in August four, and in September ten. The average monthly destructions for the quarter had thus risen to rather over one and a half submarines a week.

¹ See Appendix B I (a).

² 441,000, including fishing vessels.

But these losses, though severe, were not beyond the German power of replacement, and could not, even if maintained, appreciably affect the course of the campaign. In July, forty-seven submarines had operated in the Channel and the Atlantic, in August about forty, and in September fifty-three. The enemy had thus been able to increase their number of operating submarines by something like 8 per cent. during the very month in which their losses were most severe. The rising severity of the counter-attack against them may have lowered the average rate of sinkings of individual U-boats, by making them think more seriously of their defence; but it was obviously responsible for only a very small proportion of the sudden drop in the total number of sinkings which took place in September.

The diminution could not, of course, be counted on as permanent, and the fluctuating curve of destruction did, in fact, rise as well as fall during the next few months; but the success of the ocean convoy system cannot be measured by a comparison of bare totals. Areas such as the Mediterranean, in which the submarine attack was particularly deadly and persistent, were, at this period, excluded from its scope. To appreciate the full significance of the system it is necessary to concentrate on those areas where its influence was fully felt.

We must remember that it was, above all, the appalling havoc wrought in the Tory Island, Fastnet and Scilly approaches which had led to the application of convoy to the ocean trades, and through one or other of those areas every ocean convoy had to pass. It is in those areas, therefore, that the effects of convoy can most clearly be disentangled from those of other anti-submarine measures; it is by its success in reducing the losses in those areas that the efficiency of the system must, primarily, be judged. The figures are profoundly significant.

| | Outer Atlantic. | Fastnet Approach. | Scilly Approach. | Ushant Approach. | St. George's Channel Approach. | The Channel. | Bay of Biscay. |
|-------------|--------------------|----------------------|---------------------|---------------------|--------------------------------------|-----------------|-------------------|
| January . | 6 | 5 | 19 | 38 | 11 | 19 | 26 |
| February . | 1 | 30 | 31 | 19 | 25 | 45 | 15 |
| March . | 6 | 29 | 19 | 19 | 47 | 60 | 31 |
| April . | 12 | 54 | 38 | 15 | 11 | 45 | 12 |
| May . | 3 | 32 | 24 | 10 | 27 | 46 | 32 |
| June . | 6 | 25 | 34 | 16 | 6 | 35 | 24 |
| July . | 11 | 19 | 17 | 20 | 1 | 26 | 10 |
| August . | 5 | 6 | 11 | 18 | 12 | 23 | 9 |
| September . | 12 | 2 | 18 | 23 | 17 | 27 | 3 |

To sum up. The chief objections urged against the system before it was tried had one and all proved to be unfounded. Although station keeping had varied, there was now no doubt as to the general ability of mercantile masters to keep station and to zigzag in formation. The fear of "putting too many eggs into one basket" had proved wholly illusory. Although nearly twenty convoys had been attacked, in no instance, even when the attack was successful, had such wholesale havoc been wrought as the opponents of convoy had anticipated; generally only one ship was sunk; in no instance had a formed convoy lost more than two vessels. On several occasions the escort, on sighting a submarine, had been able to take the offensive, and to hunt it so continuously that no attack was made. But if the facts were welcome, still more important were the principles which could be plainly deduced from them. Experience had made good the claim that the formation and manœuvring of a large group of ships zigzagging at uniform speed would itself prove a decided deterrent to attack. The only approach to anything that could be called a real disaster was the attack on *OB 2*, when incompletely formed, and any possible repetition of this had been avoided by the substitution of Lamlash for Buncrana as the port of assembly.

Here then lay the first secret of convoy—its first scientific justification as a system. The second was equally important and perhaps more surprising. Not only had the "basket" shown itself to be a much stronger defence than had been anticipated; it had also proved more difficult for an enemy to find. The advocates of convoy, during the long deliberations that preceded the adoption of the system, had dwelt chiefly on the protection afforded by the escort, and by group manœuvring; the advantages of the system in evading attack had been less emphasised. Yet convoy had, in fact, probably saved more ships by evasion than by any other means. The visibility circle of a dozen or twenty ships in convoy formation was very much smaller than the collective circles of the same number of ships sailing independently, and the actual chance of any given submarine sighting the group was much less than the chance of her sighting one or more of the ships, if they were brought in along various routes and at various times. Moreover, the convoy was unlikely, at any given moment, to be visible from more than one submarine, or two at the most; whereas a dozen or twenty ships pursuing independent routes might well cover the sphere of operations of several of the U-boats. To this actual reduction in the number of targets must be added

the advantage of being able to divert the course of the whole group, by wireless, from any area known to be at the moment specially dangerous. It was, probably, the difficulty of finding convoys, and the consequent poverty of the outer approaches in which they had previously reaped so rich a harvest, that led the submarines, in August, to turn increased attention to the inshore tracks and the outward-bound trade; but our reply to this change of tactics was the introduction of outward convoys, and of fifty-two outward convoys that sailed down to September 30, 1917, only 10 per cent. of the ships had been attacked.¹

On the other hand, the offensive value of convoy had yet to be proved. In so far as the system achieved its success by evading contact with the enemy, it withdrew the destroyers and sloops employed as escorts from opportunities of offensive action. Their counter-offensive, when a convoy was attacked, had again and again been successful in avoiding or minimising loss to the vessels under their charge; but although escorting destroyers claimed on several occasions to have sunk or damaged the enemy, the destruction of no German submarine could yet be definitely traced to the activities of ships engaged in convoy. It may fairly be claimed, however, that by forcing the submarines to operate closer inshore, if they hoped to find their prey, the convoys facilitated the offensive activities of the hunting forces.

The system was not yet as complete as it could be made. The traffic in the Mediterranean and on many cross-tracks, such as that from North America to the Straits, was still outside its scope; there were still, even in the North Atlantic, a number of fast ships running independently; ships were still open to attack on their way to ports of assembly or after dispersal from a convoy; but the mounting curve of destruction had been definitely checked. The total of losses was still well in advance of the total of replacements; but the acute crisis of the spring and early summer of 1917 was a thing of the past. Never again were the U-boats to come near achieving a success decisive of the war.

¹ One or two others were attacked after dispersal before the ships had completely separated.

CHAPTER IV

THE CAMPAIGN IN HOME WATERS, AND THE EXTENSION OF THE CONVOY SYSTEM, OCTOBER AND NOVEMBER 1917

THE autumn of 1917 was a time of transition in the naval war, and at no period do the British operations at sea appear so convulsive and disconnected. Viewed in perspective they seem little but a depressing sequence of minor reverses, of enemy raids that were neither repelled nor intercepted, and of offensive operations that gave no results commensurate with the efforts involved. Examined in detail they appear nothing but a series of incidents in a tedious and disorderly guerilla warfare between patrol craft and submarines. But such impressions give no true account of the character of the war at this period, which was in reality a period not only of endurance but of adaptation and construction. For this to appear plainly, the naval war must be viewed against a wider background and in the light of what is to come; for it is only when operations at sea are related to the general course of the military campaign that they reveal their real coherence.

The hope of a successful general offensive against the Central Empires had receded into the distance when the French armies were defeated at Craonne in the spring of the year. Nevertheless, the Allied command still held to their determination to exert serious pressure on all enemy fronts, and on the last day of July the British armies began their great assault on the German positions near Ypres; three weeks later the French seconded the British offensive by attacking on the Verdun front. Whilst the French and British armies were hurling themselves against the German positions, a continuous stream of bad news poured in from every other front. The Russian armies, seized with the demoralisation that was affecting the whole country, abandoned a half-hearted offensive on the South-Western Front, and retreated in hopeless disorder; the eleventh Italian assault on the Isonzo lines was brought to a standstill. The British offensive was continued, but only as a

relief to our hard-pressed Allies; and in the early autumn a new succession of disasters gave an ugly emphasis to the dangers of the Allied situation. Late in October the Austro-German armies attacked the Italian armies in the Julian Alps, and hurled them back upon the Piave. Whilst they were in full retreat, the Russian Provisional Government collapsed; and just as the Italians reached their new positions, the new Russian Government signed an armistice with the Central Powers. In the face of such disasters, Admiralty policy could only take one form: to reduce shipping losses to a bearable figure by extending and completing the convoy system; and to prepare for American assistance in the coming year. This policy was pursued with tenacious consistency; the minor reverses and disappointments never caused any set-back to the growth and development of that complex of measures which were slowly altering the position at sea; and it is only by a curious inversion of the true aspect, that whereas the enormous achievements of this period of the war almost evade description, the minor and unimportant reverses stand out in sharp outlines. The achievement of the High Naval Command consisted in extending a special system of trade defence to every important mercantile route in the Atlantic, and in correcting the faults of the system whenever and wherever faults appeared. The achievement of the naval forces consisted in bringing hundreds of convoys to their ports, almost without loss, and in making U-boat operations more difficult than they had ever been. The successive steps in these achievements are administrative decisions, and acts of good seamanship which cannot figure very impressively in history, where only their intended or realised effects can be noted. But the minor reverses of this period, consisting, as they do, of operations that were recorded in the minutest detail, naturally provide ample material for a narrative; and for this reason it is particularly difficult to bring the story of operations at sea in the autumn of 1917 into its true historical focus. An administrative decision which saved thousands of tons of shipping and made a serious contribution to the final victory at sea can take no more than a few lines to set forth: a minor engagement in which a couple of destroyers were lost may demand many pages of description, and attract the more attention by the gallant or pathetic incidents recorded.

This work of adjustment must for the most part be done by the reader: the historian can only give a general reminder of the difference in importance between a minor action at sea

and an administrative decision or series of decisions which affected the course of the campaign. If the student of this period of the war will remember this difference as he reads, he will be able to estimate for himself the value of the directing intelligence in war, and realise the importance of operations which though apparently spasmodic and sometimes unsuccessful had none the less their place in the mosaic of a great war plan.

1

North Sea Operations, October 1917

The month of October opened with a success against the German submarines. Towards the end of September the Admiralty calculated that a considerable number of U-boats would be returning to Germany during the first ten days in October, and they issued orders for a large intercepting operation. The plan was based upon the experience gained in July, when large detachments of submarines and destroyers had been spread along the German submarine route between the Shetlands and the Hebrides; but this time a more restricted portion of the German submarine route was selected, and the operation, instead of being entrusted entirely to submarines and destroyers, was carried out by a much larger combination of patrol craft. It was known that, after entering the North Sea, German submarines were accustomed to steer south between the meridians of $0^{\circ} 30'$ and 3° E. and pass between the two large minefields on the eastern side of the Dogger Bank and the Outer Silver Pit. The routes that they ordinarily followed thus ran down a zone 315 miles long and shaped like a truncated funnel, some eighty-five miles wide at its northern end, and forty-five at its southern extremity. The Admiralty plan was to watch and patrol the entire zone for ten days, and to set a submarine trap of mine nets in the narrowest part of the funnel.¹

The forces required for this large operation were necessarily very numerous. At the northern end of the zone which was to be kept under observation, four submarines, drawn from the 10th and 11th Flotillas, were to be continuously patrolling; the next section, which lay between the latitudes of the Moray Firth and the Firth of Forth, was allotted to two leaders and fourteen destroyers of the 13th Flotilla and the yacht *Shemara*. The mine nets were to be laid at the northern end of the next section, which lay between the latitudes of the Firth

¹ See Map 6.

of Forth and Flamborough Head. The line of nets, or the trap into which the U-boats were to be driven, was to be watched and patrolled by four destroyers of the 13th Flotilla and by sixteen trawlers. Captain P. H. Warleigh, who was ordered to take charge of the mine nets and the patrols round them, was given the yacht *Goissa*. The southern end of the funnel where the submarine tracks rounded the Dogger Bank mine-field was allotted to Commodore Tyrwhitt. In their orders the Commander-in-Chief and the Admiral Commanding the Battle Cruiser Force allotted to the operation twenty-four trawlers, forty-two net drifters, twenty-one destroyers, one flotilla leader and four submarines,¹ but to keep the operating destroyers at their assigned strength the Commander-in-Chief was compelled to detach a total force which fluctuated between fifteen destroyers and leaders (September 27) and twenty-nine (October 7), whilst eighteen Harwich destroyers were at one time or another engaged.

In order to give all German submarines passing along the funnel the impression that they were being watched and followed, and so compel them to submerge when they approached the nets, the patrolling forces on the two northern sections of the zone reached their stations before the nets were actually laid. On September 27 submarines *G 3*, *G 4*, *G 7* and *G 11* took up their stations at the northern end of the zone, and the *Seymour* and ten destroyers started the patrol in the section which lay opposite the Firth of Moray and the Firth of Forth. It was not until October 1, however, that the operation really began.

At six o'clock on that morning Captain Warleigh in the *Goissa*, with the trawlers from Granton, was in the position where the nets were to be laid. He was met by eight Scapa destroyers which had been patrolling the net zone since the previous evening in order to drive away any submarines that might be about; and by the *Valentine* and five destroyers, which had been sent south to the Humber to convoy the drifter fleet. The weather was thick, hazy and unsettled, and it was not easy to check the position of the nets. None the less, during the morning they were laid in an irregular line some twenty-two miles long: the western end of the line was near the position assigned to it in the original operation orders, but the eastern extremity was too far north—the whole line ran roughly in an east-north-easterly direction instead of due east and west. As soon as he knew that the nets had been laid, Captain Warleigh directed his forces to take up their patrol stations.

¹ Including the three Harwich destroyers allotted to the southern area.

The narrative of the operation for the next ten days is little but a recital of the administrative orders issued from Scapa and Rosyth in order to ensure that the destroyers and trawlers on patrol were relieved at regular intervals. Throughout the weather was persistently adverse: three times the destroyers in the central section were driven into harbour, and twice they stopped patrolling and turned their bows into the mountainous seas. On the net section the drifters held their stations, and the trawler skippers, lashed and buffeted by sea, rain and wind, listened through their hydrophones for any sounds that might come up from the motionless depths below the turmoil of waves and spray.

The submarines in the northern section, and the destroyers to the north and south of the nets, did not see any signs of an enemy from first to last; nor indeed did the trawlers on the nets, but from time to time they heard mysterious sounds which they duly reported. The first of these sounds occurred almost as soon as the operation began. Whilst the nets were being laid, the trawlers reported nine submerged explosions; they were taken to be the sounds from premature detonations of mines that had fouled the nets: during the evening, however, the drifters heard several more explosions, and the look-out men in the destroyer *Valentine* sighted two green rockets near the western end of the drifter line. None of the vessels on patrol had made signals of the kind or had put up any flares. Two more explosions were heard on the following day; but it was on October 3 that the indications in the hydrophones were most distinct and significant. At half-past ten in the morning the watch-keepers on the hydrophone in the trawler *William Tennant*, which was stationed at the western end of the net line, heard sounds of a submarine moving through the water beneath her. The sounds were followed by a loud explosion, which again was followed by complete silence; the trawlers *Oyama* and *Chieftain* were near, and their hydrophone listeners heard the same succession of sounds and noticed the same following silence. Later in the afternoon the trawler *Swallow*, which was also near the western end of the nets, heard the sound of a submarine's electric motors so distinctly that the listeners thought the U-boat was directly underneath them. The captain dropped a depth charge; it exploded and again there was complete silence. The weather was at the time wild and boisterous, and the trawlers were being swept with spray and rain squalls; so that the sounds picked up by the *Swallow's* hydrophone were significant. In such weather the noise of the churning waters round the ship generally drowned all

other sounds : when the submarine's motors were so distinctly heard she must therefore have been very near, which meant that she was also very near the nets. Probably, however, this submarine got away, for during the evening our directional wireless stations located a submarine on the northern side of the nets and steering a northerly course.

For the next six days the British destroyers and patrols kept their stations and detected nothing. The bad weather continued almost without interruption. On October 4 the *Ithuriel* and her destroyers were driven away from the central section of the patrolled zone and took refuge for a few hours in Aberdeen and Peterhead : at 2.0 a.m. on the 5th they had returned to the patrol stations, but by ten o'clock that night the gale was again blowing with such fury that the senior officer was compelled to order the destroyers to stop patrolling, to keep their heads towards the seas and to punch into the teeth of the gale towards the Orkneys. On the nets, the captains of the trawlers and destroyers kept their ships' head to wind all that day. No detail of the original orders for chasing submarines and making them submerge could any longer be put into execution. On the 6th the destroyers on the net line were relieved; but the weather, though it had slightly abated, was still so wild that Captain Warleigh's letters had to be floated over to him in a sealed cylinder. Nothing could be done with the hydrophones, which were not even put over the side.

On the day following (October 7) the destroyers in the central section were relieved, and the *Champion* arrived in the zone of nets with orders that Captain Warleigh should return to Rosyth, and leave the senior officer of the destroyers to take charge. On the next day the weather improved; but it was not until the 9th that the watch-keepers on the hydrophones could again set to work.

The first indications came from the central section of the zone. At a quarter-past eight, the *Tancred* was attacked by a submarine whilst patrolling in a position some ninety miles to the north of the net-line. The news was passed on to the senior officer on the nets; but before the submarine was due on the line, another was sighted and attacked by the trawler *Sir John French*, and a few minutes later by the *Swallow*, at the south-western end of the net line. Just before 9.0 p.m., the listeners in the trawler *Swallow* heard a submarine's engines most distinctly, and dropped a depth charge on her. This practically ended the operation. The nets and mines were now so damaged by the continuous bad weather that the original trap was no longer a danger to the U-boats, and

on October 10 the Admiralty gave orders that the forces which had been assembled should disperse to their bases: on the 13th they received a report from Commander Cayley, the senior officer of the trawlers and drifters, that the old net line was little but a mass of wreckage, and that it would be highly dangerous to weigh it. *None the less the nets and the trawlers had done good service. Nearly a month afterwards the Director of Naval Intelligence reported that three submarines had been destroyed "in the vicinity" of the mine trap. The German lists of losses published later confirmed the British estimate; so far as we can tell, *U 50* commanded by Lieut.-Commander Gerhardt Berger, *U 66* commanded by Gerhardt Mühle, and *U 106* commanded by Hans Hufnagel perished during three of the long silences which followed when the sounds of rumbling engines had ceased to be heard in the trawlers' hydrophones.

2

*The Scandinavian Convoy, and the Convoy System, October 1917*¹

The effect of these operations was at once evident in the altered movements of the German submarines. A few days after the operation was over, the Admiralty became aware that the large U-boats had changed their routes, and were using the Kattegat for their outgoing and returning voyages. This change was perhaps not solely due to the destruction of three submarines in the North Sea. According to the most reliable reports transmitted to Whitehall, the mine barrage across the Heligoland Bight was at least causing the enemy inconvenience and anxiety. These spoke of sweeping operations carried on in the Bight without pause or intermission, and of battleships sent out in support of the sweeping forces.

Whilst the recent operations in the North Sea were taking place, Admiral Jellicoe had been considering a plan for carrying our mining operations right up to the German coasts and the German rivers, during the absence of their principal Dreadnought Squadrons in the Baltic, and had recently sent it to the Commander-in-Chief for comment. Admiral Beatty suggested some alterations on points of detail; but approved of the plan in principle, and, in the meantime, detailed a force of four light cruisers, twelve destroyers and a leader to attack the German minesweepers in the Bight, as a preliminary to the more serious operation which the First Sea Lord had in mind. Almost as soon as Admiral Beatty had completed his

¹ See Map 8.

preparations, he received orders to hold everything over, and to raise steam in all his light cruisers and in twelve destroyers, as news had just come in which entirely altered the existing position. His new instructions were to intercept a force which was believed to be on the move. As the enemy's intentions were quite unknown Admiral Beatty was virtually ordered to place the whole North Sea under observation.

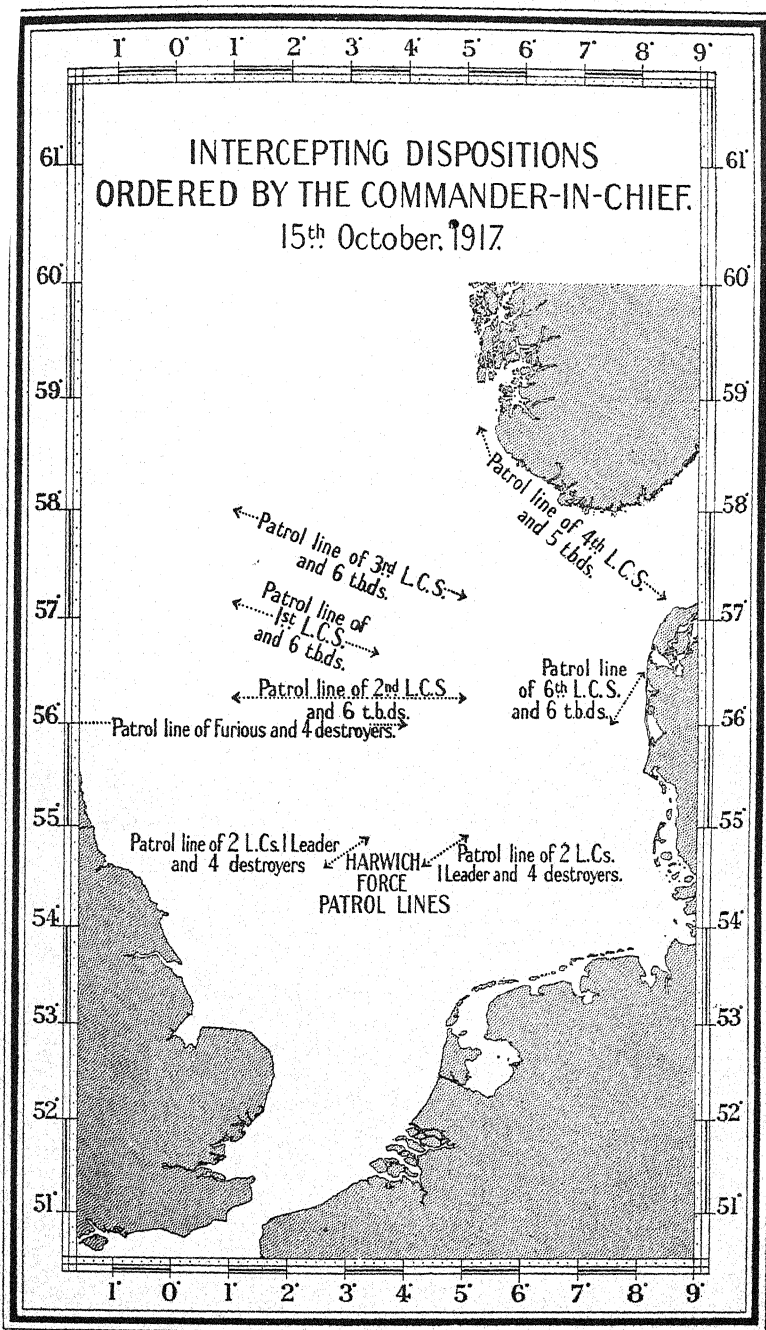
The forces he set in motion were very numerous, and his dispositions embracing. The 6th Light Cruiser Squadron (Rosyth) with six destroyers was ordered to make Bovbjerg Light by 6.0 a.m. on the 16th, and to patrol a line which ran south-westward from the Danish coast, across the outer end of the Horns Reef entrance channel. The 4th Light Cruiser Squadron (Scapa) with five destroyers was ordered to be off Jaederens point at 4.0 a.m. on the 16th, and to watch a line between there and Hanstholm; the 3rd (Scapa), 1st (Rosyth) and 2nd (Rosyth) Light Cruiser Squadrons, each with five or six destroyers, were ordered to be on patrol lines in the central part of the North Sea by noon on the 16th. After receiving a further telegram from the Admiralty, telling him that Zeppelins would probably be out on reconnaissance during the 16th, Admiral Beatty ordered the *Furious*—a specially designed cruiser with a complement of aeroplanes—to sweep along the 56th parallel as far as longitude 4° E., and to return after dark.

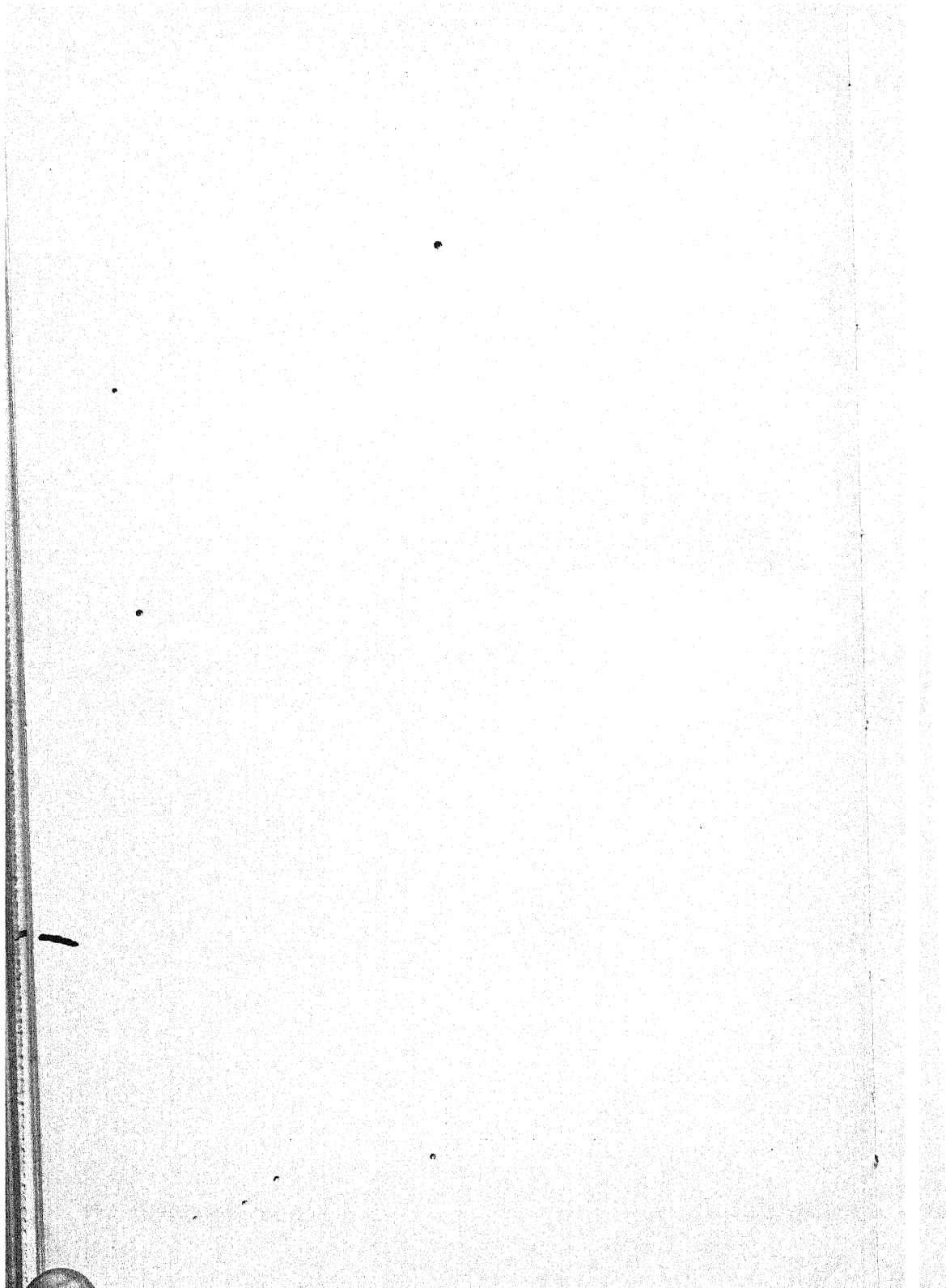
The squadrons from Scapa occupied their stations at the times appointed by the Commander-in-Chief; but the concentration of the Rosyth forces did not go so smoothly. The Commander-in-Chief's orders cancelled others which he had issued earlier in the afternoon; and the Rosyth squadrons were preparing for sea—some vessels were actually under way—when the Commander-in-Chief's final dispositions were received. Not all the forces concerned were informed of the change; and in consequence the 1st Light Cruiser Squadron took up their patrol line on the 16th without any destroyer escort. The 6th Light Cruiser Squadron reached Bovbjerg Light on the evening of the 16th short of the *Caradoc*, which had lost touch during the night, and with only the *Telemachus* and *Umpire* in company.¹ The *Furious*, accompanied by

¹ By the original orders the *Valentine* and twelve destroyers were ordered to accompany the 6th Light Cruiser Squadron to sea. A subsequent order detaching the *Valentine* and four destroyers to the 1st Light Cruiser Squadron was received in such a mutilated condition that it could not be acted upon. The actual movements of the destroyers which put to sea with the 6th Light Cruiser Squadron were: *Valentine*, kept touch with *Caradoc* during the night, and returned to base on the 17th, with the *Paladin* in company. *Vimera*, *Nerissa*, *Pylades* and *Osiris*, out of touch with the 6th Light Cruiser Squadron

INTERCEPTING DISPOSITIONS ORDERED BY THE COMMANDER-IN-CHIEF.

15th October 1917.





the destroyers *Onslow*, *Oriana*, *Penn* and *Tower*, sailed at 5.0 a.m. on the 16th and carried out her orders without mishap. The 2nd Light Cruiser Squadron reached its station with the destroyers in company.

By good fortune these miscarriages had no ill consequences, for, during the 16th, no further enemy movement through the directional wireless was detected, and our squadrons kept their patrol lines under observation without further incident. It was probably because the enemy gave no sign, and because every hour that went by uneventfully, weakened the assumption upon which our dispositions had been based, that the Commander-in-Chief decided to reinforce our squadrons during the day. First he ordered the cruisers *Courageous* and *Glorious*, and four destroyers of the 13th Flotilla to reinforce the 2nd Light Cruiser Squadron (5.0 p.m. October 16); at the same time he ordered the *Furious* to remain at sea and to concentrate on the same squadron. Late in the evening of the same day the Admiralty decided to station more forces on the line of approach to the Tyne and Humber, and ordered Commodore Tyrwhitt to distribute his available forces—seven light cruisers, three leaders and twelve destroyers—along three patrol lines which cut the parallel of 56° 15' in a north-easterly and south-westerly direction. When these new orders were carried out, three cruisers, twenty-seven light cruisers and fifty-four destroyers were at sea engaged in searching for a force which so far as we could tell consisted of only one minelayer and a handful of destroyers—so great is the power of distraction which an enemy possesses if he can conceal his intentions and disguise his movements.¹

during the 16th, got touch with *Cardiff* on the 17th and returned to base on the night of the 17th. *Telemachus* and *Umpire* kept company with the 6th Light Cruiser Squadron throughout the operation. The 1st Light Cruiser Squadron had no escort until 6.0 a.m. on the 17th, when it was joined by the *Gabriel*, *Petard*, *Norseman* and *Urchin*.

| ¹ 1st L.C.S. (Rosyth). | 2nd L.C.S. (Rosyth). | 3rd L.C.S. (Scapa). | 4th L.C.S. (Scapa). |
|--------------------------------------|-------------------------|------------------------|------------------------|
| <i>Caledon</i> | <i>Birmingham</i> | <i>Chatham</i> | <i>Calliope</i> |
| <i>Galatea</i> | <i>Southampton</i> | <i>Yarmouth</i> | <i>Caroline</i> |
| <i>Phaeton</i> | <i>Melbourne</i> | <i>Birkenhead</i> | <i>Comus</i> |
| <i>Inconstant</i> | | <i>Chester</i> | <i>Constance</i> |
| <i>Royalist</i> | <i>Parker</i> | | |
| | <i>Rigorous</i> | <i>Menace</i> | <i>Opportune</i> |
| <i>Gabriel</i> | <i>Rocket</i> | <i>Noble</i> | <i>Orford</i> |
| <i>Norseman</i> | <i>Rowena</i> | <i>Medina</i> | <i>Partridge</i> |
| <i>Petard</i> | <i>Sabrina</i> | <i>Nonpareil</i> | <i>Peyton</i> |
| <i>Urchin</i> | <i>Trenchant</i> | <i>Offa</i> | <i>Relentless</i> |
| | | <i>Patriot</i> | |

[Continued next page]

of an officer called the convoy pilot. During the afternoon the *Mary Rose* seems to have got ahead of the convoy, and when the *Strongbow* joined after dark, neither commanding officer could get into touch with the other. Lieutenant-Commander Edward Brooke of the *Strongbow* called up his colleague several times during the night but got no answer; he therefore took station somewhere on the port quarter of the convoy, which was spread to the north and north-west of him. The night passed without incident, and, at six o'clock on the morning of the 17th, about half an hour after dawn, the *Mary Rose* was some six or eight miles ahead of the convoy; and the *Strongbow* was still in company. The wind was blowing fresh from the south-west, and there was a heavy swell, the moon was only a day old, and did not rise until after daybreak; but the air was clear and the lookout men could see a fair distance. Neither of the commanding officers knew that our cruiser and light cruiser forces were out, and that the general alarm had been sounded over the North Sea two days before. The convoy was, at the time (6.0 a.m. October 17), about seventy miles east of Lerwick.

A few minutes after six, the look-outs in the *Strongbow* reported two strange vessels to port, on a converging course. They were challenged three times and made no satisfactory answer. The officer of the watch at once realised that he was in the presence of an enemy force, and sent below to call the captain, Lieutenant-Commander Brooke. The minelaying expedition about which we had been endeavouring to get information for two days had thus proved a highly deceptive quarry. The uncertain indications of movement which the Admiralty had detected on the 15th had their origin in the impending departure of two minelaying cruisers, *Brummer* and *Bremse*, which had left the rivers late in the afternoon, and had steamed rapidly north, giving no signs of their presence. They had been chosen for an attack against the Scandinavian convoy on account of their speed and capacity to keep the sea; and these were the new-comers that the *Strongbow* sighted.¹

When the third challenge was answered by a signal which bore no resemblance to the proper reply, Lieutenant-Commander Brooke sounded the alarm gongs and went to action; but before the men could reach their stations and clear away the guns and torpedo tubes, the *Strongbow* was helpless and her decks covered with dead.

The first salvoes from the enemy had severed the main

¹ The German cruisers were of 3800 tons displacement; speed 34 knots; armament four 5'9", two 22-pounder anti-aircraft.

steam-pipe and left her without power of manœuvre; many of the hands below were scalded to death, those on deck were struck down by a murderous and well-directed fire. Lieutenant-Commander Brooke was hit in the leg by a shell splinter; but he bore the terrible pain of his wound with wonderful fortitude. He would not allow anybody to attempt to leave the ship until he was absolutely certain that every confidential book and paper had been destroyed, and that the enemy would get possession of nothing useful from his doomed vessel. When satisfied that his orders had been carried out in every particular he commanded that the ship should be sunk and that those who were still alive should save themselves. He never imagined that he would be amongst them, but those of the crew who were still living determined to save their captain, or at least to take him away so that if he died he might die amongst them. They carried him from the bridge to a Carley raft, and placed him on it, where he lay for a long time in great agony from his wounds, with the icy water breaking over him. The *Strongbow* was abandoned at about half-past seven, after the Germans had made three separate attacks upon her.

Meanwhile Lieutenant-Commander Fox in the *Mary Rose* had seen and heard firing astern, and turned back. He had time to put his men to action stations; but his destroyer was in no state to begin a fight against desperate odds. Under the existing organisation it was almost impossible to fight the guns and the torpedo tubes simultaneously; and in addition, the gunners of the *Mary Rose* were about to engage under a hopeless handicap, as the range and deflection transmitters were not working. When he turned back, Lieutenant-Commander Fox had no idea that the convoy was being attacked by anything but a submarine. A few moments later he sighted the German cruisers and grasped the real position. Without a moment's hesitation he approached the enemy at high speed, and at about twenty minutes past six the gunners opened fire at a distance which was estimated at between 6000 and 7000 yards. The survivors stated that when the fight began the *Mary Rose* was confronted by three light cruisers, but that one or more of them was engaged in destroying the convoy. For a few moments it seemed as though Lieutenant-Commander Fox would draw the Germans away from the convoy: he rapidly closed the nearest German cruiser, whose shooting was extremely wild; and it was some time before the *Mary Rose* was hit. When at a distance of about 2000 yards from the enemy Lieutenant-Commander Fox

put the helm hard over, and the German gunners got the range as the *Mary Rose* was on the turn. After that the end came quickly. At about seven o'clock, after the *Mary Rose* had endured terrible punishment, Lieutenant-Commander Fox gave the order to abandon ship, and told every man to look after himself. Sub-Lieutenant Freeman and a handful of men managed to get away on a Carley raft, from which they were subsequently picked up by a lifeboat full of survivors from the convoy. Lieutenant-Commander Fox was last seen swimming in the icy water just before the *Mary Rose* went down. Most of the convoy shared the fate of the escort. The captain of the armed trawler *Elise* contrived to keep his ship out of the fire from the German cruisers, and returned to the scene of the disaster as soon as he could, where he picked up a number of survivors, amongst them Lieutenant-Commander Brooke and the party from the *Strongbow*. Sub-Lieutenant Freeman and the men from the *Mary Rose* reached the Norwegian coast near Bergen, where the lighthouse keepers took them in and fed them and attended to their injuries. The other trawler—the *P. Fannon*—and three British steamers also got away, but the remainder of the convoy, nine ships in all, perished. Throughout the attack the Germans displayed a severity which is hard to distinguish from downright cruelty. They gave the neutral masters and crews no chance to lower their boats and get away, but poured their broadsides into them without warning, as though they had been armed enemies. By the strict and literal law of nations it might be said that a neutral who has placed himself under the armed protection of a belligerent has already resisted search and capture, and is thus entitled to nothing but gunfire; by the unwritten law of the sea he should at least be given the best chance of life that can be offered him. In the case of the destroyers the enemy's conduct was even worse; for to their everlasting discredit fire was opened and maintained upon the *Strongbow's* survivors.¹

Neither of the commanding officers in the destroyers had been able to send off any signal about the attack on the convoy, and during the forenoon of the 17th the Admiralty could get no further indications of the movement which they had detected two days before. Such reports as they had been able to obtain from our patrols off the swept channels made them almost doubt whether the minelayer and her

¹ The Court of Inquiry into the loss of the *Strongbow* went into this question most carefully, and decided, after full investigation, that there could be no doubt the Germans had deliberately fired on the *Strongbow's* Carley raft and motor boat.

escort had left harbour at all; and at last they began to suspect that a regular cruiser attack against the northern convoy might be intended. They therefore ordered the "Lerwick" convoy to be held in harbour; the Commander-in-Chief at once asked that he might be given a reason for the order, and inquired also if it applied to all convoys whether east or west-bound. Whilst he was waiting for an answer the real facts of the case were brought to his notice. Just before half-past three in the afternoon the destroyers *Marmion* and *Obedient*, which had left Lerwick with an east-bound convoy, fell in with the armed trawler *Elise*—coming away from the scene of the morning's disaster with a few survivors. In a few moments Lieutenant H. J. N. Lyon, the commanding officer of the *Marmion*, was informed that the convoy had been attacked in the early morning. He at once sent on the news to the commodore of the flotillas, by whom the message was passed to the Commander-in-Chief; it reached him some time between four and five o'clock in the afternoon. The German cruisers had thus got a good eight hours' start, but there was still some hope that they might be brought to action. Assuming that they had started back at about eight o'clock in the morning, and that they steamed for home at twenty knots, they would be off the mouth of the Horn Reefs channel at 2.0 a.m. on the 18th. If they made the return journey at a slower speed—and it was possible they would—our cruisers might be able to pick them up with the first hours of daylight.

The first and most pressing need was to alter the existing dispositions. It will be seen at a glance that the patrol lines, which the Commander-in-Chief had ordered the light cruisers to occupy on the 15th, left an open, unwatched space between the area watched by the 4th and 6th Light Cruiser Squadrons and the areas patrolled by the 3rd, 1st and 2nd. It was through this gap that the enemy had passed on his outward journey, and the Commander-in-Chief's first thought was to close it as soon as he could: he therefore ordered the 4th Light Cruiser Squadron to patrol a line which ran south for twenty miles from Ryvingen Light; and directed the 3rd, 1st and 2nd Light Cruiser Squadrons, and the heavy cruisers *Courageous* and *Glorious* to occupy a line which ran to the south-westward from near Hanstholm right across the track of the returning Germans. For the time being he gave no orders to the 6th Light Cruiser Squadron, which, by its original orders, was well placed for cutting off the returning German cruisers. These new orders were issued at a quarter-past six in the evening of the 17th, and the forces to whom

they were sent were directed to be on their new stations by 5.30 a.m. on the following morning. Later in the evening he sent orders to the 6th Light Cruiser Squadron to prolong the new patrol line at its north-eastern end if they were to the north of latitude $56^{\circ} 30'$ when they received the message, or, if they were not, to extend the line from its opposite or south-western end.

These orders reached our light cruiser and cruiser forces at various hours during the night; but before they could be carried out the Germans had run past the cordon. At five o'clock in the morning of the 18th they were located at Lyngvig, and our squadrons were almost immediately ordered to return to their bases.

When the Admiralty received the original proposals for putting the Scandinavian trade under escort, they had asked the officers in command of the patrol areas on the east coast to give their opinions upon the plan. All had favoured the plan itself, but several officers remarked that the enemy would soon learn about the convoy from their consuls and from neutral captains, and would make every effort to attack and disturb it. One of the officers to whom the proposals had been sent had added that sooner or later provision would have to be made for resisting strong attacks on the convoy by surface vessels.

The system had worked so successfully and had been so little interfered with that everybody concerned had been lulled into a false security. The instructions issued to the destroyers contained no word of the action to be taken in the event of an attack by surface ships, and the destroyer captains had never discussed the question amongst themselves. Little can be done if two destroyers and a number of unarmed merchantmen are attacked by two powerful cruisers; and still less is likely to be done if the contingency has never been considered or discussed.

The incident proved, moreover, that, if the Germans decided to raid the Scandinavian route with surface ships, it would be very difficult to stop them. Theoretically the German cruisers could hardly have been in a worse position than they were on the morning of October 17 when they started on their run of 500 miles through a sea patrolled by over eighty British vessels of all classes. If, under such apparent disadvantages, the German cruisers were able to strike their blow unhindered and return undamaged, it was not likely that any measures of general precaution on our side would either stop a raid or render it innocuous.

In spite of its brilliantly successful execution, the raid

must have been somewhat disappointing to the German Staff. The operation was obviously intended to act as a general deterrent to Scandinavian masters; yet in spite of the rapidity and ferocity with which it was carried out, it failed to deter them. In fact, it hardly caused a disturbance in the timetable of Scandinavian trade.

On October 19, after the news of the disaster had been received in neutral countries, the usual west-bound convoy sailed from Norway, and the east-bound convoy started from Lerwick only a day late. After that the convoys ran daily in each direction with the regularity of cross-channel steamers in times of peace.

On the day after the raid the Admiralty warned the Commander-in-Chief that the attack would probably be repeated, and asked him to consider how the Scandinavian convoy could be more closely protected. The Commander-in-Chief answered that it was quite beyond his power to keep a light cruiser squadron constantly at sea to the south of the convoy route, and that this would be the only means of absolutely securing the Scandinavian trade against a repetition of these dangerous attacks. The most that he would be able to do, with the means at his disposal, would be to station two submarines permanently off Bovbjerg, where they would watch the channel from which raiders would most probably enter the North Sea; and to send out a light cruiser squadron to patrol to the south of the Lerwick-Bergen route as often as he could. These dispositions would give no extra protection to the coastal route between Immingham and Lerwick, by which the convoys reached their port of assembly; nor did the Commander-in-Chief consider that it could be more closely guarded unless a cruiser squadron were kept on patrol between the Humber and the Farne Islands: north of the Farne Islands he considered that the coastal route would be secure, since the enemy would hardly raid the approaches to Rosyth with a detached force of light cruisers. As he would have the utmost difficulty in providing light cruisers for the occasional patrol of the northern route, it would be almost impossible to maintain light cruiser forces off the coastal route between the Humber and the Farne Islands. The Admiralty agreed with the Commander-in-Chief's proposals; but suggested that the Scandinavian convoy would be less vulnerable if it sailed less frequently. The Admiral Commanding the Orkneys and Shetlands, who was responsible for the organisation of the convoy, reported that he could make arrangements for sending out the convoy every three

days if the principal escort force could start from the Tyne instead of from Immingham; and if an additional force of eight trawlers were supplied for escort duties between the Tyne and the Humber. As the convoys would necessarily be larger under the new system, he would also require a force of nine "M" class destroyers to escort the merchantmen between Lerwick and Norway. To this the Admiralty also agreed.

The Commander-in-Chief did not think that the precautions taken should be purely strategical, and he issued a revised set of orders to the destroyer escorts of the Scandinavian convoy. These orders were evidently designed to prevent a repetition of the loss of life which had occurred when the commanding officers of the *Mary Rose* and *Strongbow* had flung their ships against an enemy of overwhelming strength. The captains of the escorting destroyers were reminded that the tactics to be employed if the convoy were attacked by submarines were not suitable for meeting an attack by surface ships. In this second case the destroyers could only report that the enemy were present, disperse the convoy, and harass and distract the attacking force whilst the convoy was scattering. "The destroyers themselves," ran the order, "while using their utmost endeavours to damage the enemy, are not to engage superior forces. They are to use their speed to maintain a safe distance from the enemy; they cannot protect the convoy after it has scattered and are not to be risked uselessly."

As the enemy had at their disposal a number of light cruisers which could penetrate well into the Atlantic, the Admiralty had also to consider the question of protecting ocean convoys against attacks by surface craft. They decided that the necessary reinforcements should be drawn from the four or five escort cruisers which were generally waiting for convoys in Liverpool, Glasgow and Plymouth. All these vessels were henceforward kept at twenty-four hours' notice; and in addition steps were taken to inform the Commander-in-Chief, daily, of the position and destination of every convoy to the east of longitude 25° W.; this meridian was assumed to limit the area within which a raiding cruiser could strike at our convoys.

These precautions for protecting the convoy system against disturbance by raiding cruisers were the more necessary because the system itself was now in working order. Every sixteen days, eighteen convoys bound for Great Britain were met by the destroyer escorts of an equal number of

outward-bound convoys. Between four and five hundred ships a month were being escorted inwards and outwards.¹

Thus far the system protected only the Atlantic trade; but it had for long been intended to place some sections of the Mediterranean traffic under armed escort. The project had been under consideration for many months; and when he left England for the Mediterranean in August, Admiral Calthorpe took with him the nucleus of a shipping intelligence section to make that analysis of traffic movements which is the necessary preliminary to the institution of any system of convoy. The growing shortage in Italian coal supplies and the universal demand for economy in shipping now made the question urgent and pressing. Ships from the Far East had been diverted to the Cape Route since 1916, and the Italians were demanding coal deliveries at the rate of 800,000 tons a month. The Ministry of Shipping calculated that, if the ships engaged in the Far Eastern trade could again use the shorter Mediterranean route, some forty vessels would be released for the North Atlantic. More than that, the Egyptian coal supplies could be carried in ships outward bound to India and the East, and the slower colliers, hitherto used in the Egyptian coal trade, released for service in the Italian. But the economies which the plan would effect were all contingent upon the question of protection. If, by returning to the Mediterranean route, Far Eastern traffic merely exposed itself to a double danger, the economies would soon be expended in losses. The statistics of the convoy system proved that about ninety-eight per cent. of the vessels grouped in convoy and given armed escort would reach their destination. To convoy the Far Eastern traffic through the Mediterranean was, therefore, the only practicable method of making the Ministry of Shipping's economies a permanent gain in carrying power. But the senior naval officers in the Medi-

| Homeward Convoys. | | | | | Outward Convoys | | |
|-------------------|---------------|-----------|---------|--------------------|-------------------|----------------------|----------|
| Designation. | From | To | Speed. | | Designation. | From | Speed. |
| 1 HH | Hampton Roads | E. Coast | 8 knots | met by escort of | 1 OQ ¹ | Queenstown | 10 knots |
| 1 HH | " | W. " | 8 " | " " | 1 OB | Lamlash ² | 8 " |
| 1 HS | Sydney | E. " | 8 " | " " | 1 OQ ¹ | Queenstown | 10 " |
| 1 HS | " | W. " | 8 " | " " | 1 OB | Lamlash ² | 8 " |
| 2 HN | New York | E. " | 9½ " | " " | 2 OD | Devonport | 10 " |
| 2 HN | " | W. " | 9½ " | " " | 2 OB | Lamlash ² | 10 " |
| 2 HX | Halifax | W. " | 12½ " | met by escort from | | Buncrana | |
| 2 HD | Dakar | E. & W. " | 8 " | met by escort of | 2 OQ ¹ | Queenstown | 10 " |
| 2 HL | Sierra Leone | " | 10 " | " " | 2 OD | Devonport | 10 " |
| 2 HG | Gibraltar | E. " | 7 " | " " | 2 OF | Falmouth | 7 " |
| 2 HG | " | W. " | 7 " | " " | 2 OM | Milford | 7 " |
| | | | | | 2 OM ³ | " | 7 " |

¹ Escort of U.S. destroyers relieved by Devonport in 5° W.

² Escort furnished by Buncrana.

³ Escort returned to base without meeting a homeward convoy.

terranean to whom inquiries were sent, all answered that the necessary escort craft could not be provided, and it was only when American reinforcements had begun to assemble at Gibraltar that a workable plan could be devised.¹

These through-Mediterranean convoys were collected in home ports, and sent through the danger area in the ordinary way; off Cape Spartel they were met by the escort of one of the outward Gibraltar convoys. These ships took their convoy through the Mediterranean as far as the Malta channel, when they were relieved by other escort forces which took it on to Port Said. The ocean escort vessel—generally a Q-ship—remained with the merchantmen throughout the voyage, and these through-Mediterranean convoys were regarded as part of the convoy organisation controlled and directed from Whitehall. They were kept quite distinct from the local Mediterranean convoys which the Commander-in-Chief and his staff were endeavouring to institute. The first through convoy started from England on October 8.

Almost simultaneously the Gibraltar convoys were re-organised. The homeward bound convoys had always remained together throughout the voyage; but those outward bound from Falmouth and Milford had hitherto been dispersed after passing through the danger zone in home waters. This left ships without escort in the approaches to Gibraltar, and several vessels that had been taken successfully through the danger zone in the western approaches to the Channel had been sunk after dispersal.² It was accordingly decided that these outward convoys should be kept together until their arrival at Gibraltar, and that ships bound to

| | | | | |
|---|-------------------|---|--|-----------------------------------|
| ¹ Light Cruiser | <i>Birmingham</i> | } | arrived at Gibraltar during August. | |
| Gunboat | <i>Sacramento</i> | | | |
| " | <i>Nashville</i> | | | |
| " | <i>Machias</i> | | | |
| " | <i>Castine</i> | | | |
| Revenue Cutter | <i>Ossipee</i> | } | arrived at Gibraltar during September. | |
| Light Cruiser | <i>Chester</i> | | | |
| Revenue Cutter | <i>Seneca</i> | | | |
| " | <i>Yamacraw</i> | | | |
| " | <i>Manning</i> | | | |
| Gunboat | <i>Marietta</i> | } | | arrived at Gibraltar 3rd October. |
| ² Ships sunk after dispersal : | | | | |

| | | |
|---------|----------------------|---------|
| Aug. 24 | <i>Henriette</i> | ex OM 3 |
| Sept. 6 | <i>Clan Ferguson</i> | " OM 5 |
| " 7 | <i>Hunsbridge</i> | " OM 5 |
| " 18 | <i>Arendal</i> | " OM 8 |
| " 18 | <i>Polar Prince</i> | " OM 8 |
| Oct. 1 | <i>Normanton</i> | " OF 11 |
| " 1 | <i>Mersario</i> | " OF 11 |
| " 2 | <i>Almora</i> | " OF 11 |

Atlantic ports were to be detached as necessary. The convoys were to be met, by a Gibraltar escort, on the outer edge of the southern danger zone, and their ocean escort was to remain with them.

The losses in the first batch of through-Mediterranean convoys were exceptionally severe, sufficient indeed to raise the question whether the system should be persevered with. These losses were, moreover, accompanied by others of a very unexpected and serious nature. On October 2 the cruiser *Drake*, which was now one of the ships of the ocean escort force, was torpedoed by an unseen submarine after dispersing her convoy (*HH 24*) off the North coast of Ireland. Captain Radcliffe, finding that his ship could still steam, decided to make for Rathlin Island, and called up the destroyer escort from which he had just parted. Another division of the 2nd Flotilla also took in his signal, and in little more than an hour eight destroyers, with four sloops following them, had closed the *Drake*, formed an anti-submarine screen and were entering Rathlin Sound. While thus employed the *Brisk* struck a mine and had to be towed into Lough Foyle by two trawlers. The *Drake* was anchored in Church Bay by noon, but as she began to heel over rapidly it was decided to abandon her, and her crew were taken off by the *Martin* and *Delphinium*. The *Martial* and *Lizard* had been detached to divert traffic, and the destroyers *Medina* and *Moresby* were despatched from Glasgow to relieve the *Portia's* division. Later the *Marne* arrived from Buncrana and took over the escort. But during the afternoon the *Drake* capsized at anchor, and the Glasgow contingent was recalled.

A court-martial decided that Captain Radcliffe was justified in proceeding alone, in view of his orders; but the Court apparently considered that an escort for the *Drake* should have been provided. In the event which happened there would no doubt have been good economy; but the strain on the destroyers escorting the Atlantic convoys was at this moment extremely severe. When the *Drake* was sunk the whole of the Buncrana force—twenty destroyers and ten sloops—were thus employed, protecting three outward and four homeward convoys, while seven destroyers and three sloops were under repair. But an organisation so efficient that it could bring twelve ships to the rescue of a torpedoed ship within an hour and a half was evidently not yet at breaking point; and the Admiralty immediately ordered two destroyers from Buncrana and two from Queenstown to escort the cruisers *Cornwall* and *Antrim* when those ships dispersed their homeward convoys on the following day.

In the next *HH* convoy the ocean escort *Bostonian* was sunk. Her commander, Rear-Admiral Nelson-Ward, had during the afternoon of October 10 been reforming his convoy to take in five new vessels. At 5.22 p.m. the *Bostonian*, which had been steaming across the front of the convoy to take up her position in the new formation, was struck by two torpedoes, apparently fired at close range from a position inside the destroyer screen. Her boats were lowered and manned in perfect order, but the ship sank so rapidly by the stern that she swamped the foremost starboard boat, in which was Admiral Nelson-Ward himself. As he came to the surface he saw the *Bostonian's* bows standing up vertically out of the water, and at 5.28 p.m., six minutes only from the first hit, she disappeared. Four of her crew, working in the stokehold, went down with her: the other 105 were picked up by the destroyer *Cockatrice*—a very skilful operation screened by Commander Reinold in the *Hind*, while he sent his remaining destroyers to collect and reform the convoy.

The loss of the *Orama*, armed merchant cruiser (Commander W. R. C. Moorsom), on October 19, was the third casualty among the ocean escorts during that month. She was escorting *HD 17*, a convoy of seventeen vessels formed in six columns and very strongly screened by eight United States destroyers and a sloop, with an extended escort of a sloop and two destroyers at distances ahead ranging from 2500 yards to 30 miles. At 5.50 p.m., in clear and fine weather, she was torpedoed on the port side. The submarine was sighted by the U.S.S. *Conyngham*, which made a smart turn to ram her, but without success. The *Orama* sank four hours later.

These three losses in a single month revived, if they did not justify, the misgivings of those who had objected to the system on the ground that the provision of escort involved too great a diversion of combatant force. In fact, however, the three lost ships were none of them truly to be described as combatant forces. The *Drake* was an old cruiser without serious fighting value, the other two were not cruisers in the ordinary sense at all—the *Bostonian* was a commissioned escort vessel, the *Orama* an armed merchant cruiser. There was, however, a more legitimate reflection to be made upon the events above described. They suggest that the ocean escorts were a negligible force for any purpose beyond their shepherding duties in keeping a convoy together. When their convoys entered the danger zone, their work was practically over. They could not "defend trade" against

submarines at all, being just as open to attack as the ships they escorted.

The weeks which followed these disasters were marked by better fortune. There was, however, one incident in mid-Atlantic which served as a reminder that the escorts were often more exposed to danger than the escorted vessels. German submarine cruisers were still operating between the Canaries and the Azores; Meusel had been succeeded by Kophamel in *U 151*, who was about 140 miles to the west of Madeira when, on November 14, he fell in with the *Marmora*, escorting a Dakar convoy of twenty-five steamers. The *Marmora's* look-out men sighted the submarine whilst she was still six miles distant; so that Captain Woodward had time to order his convoy to move away. None the less, whilst he was rejoining the merchantmen, the submarine's periscope was sighted about thirty yards from the ship, and the escape both of the *Marmora* and her convoy was little short of a miracle. The three losses in the escort forces during the previous month were nearly added to substantially by a loss in a zone where the convoys had hitherto been remarkably safe. Both Meusel and Kophamel had cruised in the mid-Atlantic at their will and pleasure. We had no means whatever of disturbing them. But beyond compelling our authorities at Dakar and Sierra Leone to give an occasional order for delaying a convoy's sailing or changing its route, Meusel and Kophamel had hitherto caused no disturbance in the working of the system.

3

*The Action in the Heligoland Bight, November 16-17, 1917*¹

It was not, however, upon this outer limit of the submarine theatre that attention was, for the moment, focused. The centrifugal operations of the German sweeping forces in the Heligoland bight and the southern Baltic were causing the Admiralty and the Commander-in-Chief increasing concern.² It was now known that considerable forces of auxiliaries were employed, almost daily, upon the outer edge of the mine barrier, over a hundred miles from Heligoland. They were generally accompanied by light cruisers and destroyers; occasionally a force of battleships was kept at

¹ See Map 7.

² The Commander-in-Chief sent a very considerable force of light cruisers and destroyers into the Kattegat on October 31, expecting that they would bring some German outpost forces to action. They discovered an armed steamer and nine trawlers, which they sank.

sea, near Heligoland, in support. Various projects for attacking these forces had been put forward from time to time; and towards the middle of November the intelligence in the Admiralty's hands was so detailed and circumstantial that a regular plan of operations was drawn up. Reports from our agents and submarine commanders then showed that the enemy was carrying out a large sweeping operation, and that if the Rosyth forces could be sent out rapidly and in strength, they would have a chance of striking the enemy a serious blow. The Admiralty therefore decided that the operation they had in mind should begin on November 17, and early in the morning of the 16th the Commander-in-Chief issued the necessary orders. The 1st Cruiser Squadron, the 1st and 6th Light Cruiser Squadrons and the 1st Battle Cruiser Squadron, reinforced by the *New Zealand*, were to sweep across the North Sea to a point about half-way across the outer edge of the quadrant of mines in the Heligoland Bight. They were to approach this point from the western and southern sides of the large German minefield in the central part of the North Sea, and having reached it, were to sweep to the N.N.W. The 1st Battle Squadron was to take up a supporting position in the middle of the open water between the eastern edge of the German minefield and the north-western corner of the British mine barrier. The cruiser forces were to arrive at the general rendezvous on the mine barrier at 8.0 a.m.; the battle squadron was to be in its supporting position at the same time.

The implications of these orders are highly important, and must be explained at considerable length if the actual details of the action which subsequently took place are to be understood. As the squadron commanders were instructed to strike at a force of enemy ships on or near the outer edge of the mine barrier, it followed that if they found them, the British squadrons might be obliged to press on into the mined area in pursuit. If they were so compelled their movements would obviously be restricted by those minefields which they believed to lie within the zone of their operations. It is therefore most important to get an accurate picture both of the minefields themselves and of what the Admirals in charge of the operation knew about them.

The British and German minefields in the Heligoland Bight were printed on a special chart which the Hydrographer of the Navy issued every month. This chart was, however, not circulated to the fleet. The Commander-in-Chief had a copy; the Vice-Admiral Commanding the Battle Cruiser Force had seen one; but it does not appear to have been

communicated to the Admirals in charge of cruiser squadrons. Subordinate admirals, and captains of ships to whom this chart was not shown, kept their own charts up to date by plotting on them the summaries of mining information which the Commander-in-Chief issued from time to time. These summaries, which were called mine memoranda, did not give the positions and direction of every line of mines laid—these data were only to be obtained from the mine chart possessed by the Commander-in-Chief—but stated merely that certain areas were dangerous. The mining memoranda were little but lists of the co-ordinates required for plotting rough quadrilaterals, rectangles and rhomboids round the danger areas. Brief notes of areas and zones considered to be especially dangerous were, however, added from time to time.

Admiral Pakenham either possessed, or had been shown, a copy of the mining chart prepared and issued by the Admiralty. This chart showed, quite clearly, that there was a zone of clear water to the south-eastward of the general rendezvous given in the operation orders. The mines laid in April 1917 in the fields called W. 5 and W. 6, and those in the large field laid in September 1915, had no sinking plugs, and might, therefore, be dangerous; but the fields laid on January 24 and 25 had long since ceased to constitute a danger, as the mines had all been fitted with thirty-eight-day sinking plugs. There were two lines of mines which might still be dangerous to the south-east of the rendezvous; the centre of one lay in $54^{\circ} 30' \text{ N.}$, the middle point of the other was in $54^{\circ} 20' \text{ N.}$; but though the mines in each had not been fitted with plugs, they had been laid early in January, and were therefore more than ten months old when the operation was ordered. Admiral Pakenham had thus sufficient information in his possession to know that his ships could penetrate into the mined area for about thirty miles, so long as they avoided the large minefields which lay on the north-eastern side of a line drawn south-east from the general rendezvous.¹ Admiral Napier, who commanded the 1st Cruiser Squadron and the light cruiser squadrons allotted to the operation, was by no means so well informed. He knew the positions of the mined areas adjacent to the general rendezvous, but had no means of judging whether they were absolutely or relatively dangerous. In addition to this, the Commander-in-Chief, in the first pages of his mine memoranda, had absolutely prohibited all ships from passing a line which ran through a point just south of the rendezvous, unless they

¹ Laid in April 1917.

PLAN ILLUSTRATING THE ORDERS
issued on the 16th November, 1917.
TO THE FORCES DETAILED FOR THE
OPERATIONS IN THE HELIGOLAND BIGHT.

1st Battle Squadron in support
ADMIRALTY

EDGE OF MINE
BARRIER AS NOTIFIED BY

Sweeping forces to pass
through this point and
sweep N. N. W. towards
1st Battle Squadron.

communicated to the Admirals in charge of cruiser squadrons. Subordinate admirals, and captains of ships to whom this chart was not shown, kept their own charts up to date by plotting on them the summaries of mining information which the Commander-in-Chief issued from time to time. These summaries, which were called mine memoranda, did not give the positions and direction of every line of mines laid—these data were only to be obtained from the mine chart possessed by the Commander-in-Chief—but stated merely that certain areas were dangerous. The mining memoranda were little but lists of the co-ordinates required for plotting rough quadrilaterals, rectangles and rhomboids round the danger areas. Brief notes of areas and zones considered to be especially dangerous were, however, added from time to time.

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¹ Laid in April 1917.

had been supplied with information of the minefields and danger zones on the farther side of it.¹ Admiral Napier considered that the information he possessed would justify him in passing about twelve miles beyond this line to another, which he had drawn round the outer edges of the areas described as dangerous in the Commander-in-Chief's mine memoranda.² Admiral Napier's chart of the minefield differed from the charts prepared by Admiral Alexander-Sinclair³ and Commodore Cowan⁴ in a very important particular. In September 1915 the minelayers *Angora*, *Orvieto*, and *Princess Margaret* had laid a very big minefield in the centre of the Heligoland Bight; and on September 13 the Commander-in-Chief issued a notice to the fleet⁵ in which the limits of the danger area were defined. During July 1916 the minefield was strengthened by a new line of mines, and in October 1916 the Commander-in-Chief reissued his first notification; but distributed it only to a selection of the officers who had originally received it.⁶ At the same time he cancelled and annulled his original notice of September 1915. In November 1917, Admiral Napier's chart showed this large danger area, and he considered it an absolute barrier to any advance into the mined area: the admirals in charge of the 1st and 6th Light Cruiser Squadrons knew nothing of it, and had not marked it on their charts at all.

There was also in existence a chart which showed not only the British and German mines in the German Bight, but also the approximate positions of the channels that the Germans had swept through them. The Commander-in-Chief possessed a copy of this chart, but he had not shown it to any of the admirals in charge of the operating squadrons; nor had he included any of the special information contained on this chart in his operation orders. The paragraph in the orders devoted to "enemy intelligence" stated merely that enemy submarines on passage were keeping to a fixed route between Muckle Flugga and the North Dogger Bank light-vessel: it gave no indication of the

¹ He had marked this as "line A" (see chart).

² He had marked this as "line B" (see chart).

³ In charge of the 6th Light Cruiser Squadron.

⁴ In charge of the 1st Light Cruiser Squadron.

⁵ The exact distribution of this notice was: Flag Officers, Commodores, and officers in command of H.M. ships of the 1st, 2nd and 4th Battle Squadrons, the 1st, 2nd and 7th Cruiser Squadron, the 4th Light Cruiser Squadron, *Iron Duke*, *Oak*, *E 16*, and the 2nd and 4th Destroyer Flotillas.

⁶ The exact distribution was: the Admiral Second-in-Command, the Flag Officers and Commodores of the Grand Fleet, the Captain "S" Tees and Blyth, the Commanding Officer H.M.S. *Fearless*.

probable movements and the general line of retirement of any German forces that might be met with on the outer edge of the barrier.

It so happened that the Admiralty and the Commander-in-Chief had very accurately chosen both the time and the focusing point of the operation. The German staff had ordered a large sweeping operation in the very zone that our sweeping forces were about to examine. Admiral von Reuter of the 2nd Scouting Group was to assemble a force of sweepers on the central point of the barrier and was to sweep to the north-westwards. The object of the operation, which was called a "Stichfahrt" or "thrust voyage," was to fix the position of any minefield that had been laid across the track of the sweepers, and to discover and mark a track round it into clear water. These "Stichfahrten" were carried out whenever the weather allowed by an organised procession of sweepers and supporting craft. At the head of the sweeping line were the minesweepers and their sweeps, after them came the destroyers with indicator nets, and behind these the "barrier breakers" with the light cruisers and an airship escort.¹ At some time on the 16th Admiral von Reuter ordered the 6th Minesweeping Half Flotilla, the 2nd and 6th Minesweeping Support Half Flotillas, the 12th and 14th Half Flotillas of destroyers, the 4th Barrier Breaker Group and his own squadron of light cruisers to assemble in the central part of the mine barrier in the early morning of the 17th. The battleships *Kaiser* and *Kaiserin* were kept near Heligoland in support.

The 1st Battle Squadron reached Rosyth during the afternoon of the 16th, and all the forces allotted to the operation left harbour at half-past four; by seven o'clock on the morning of the 17th the cruiser groups were approaching the barrier. The 1st Cruiser Squadron was ahead; slightly before their port beam was the 6th Light Cruiser Squadron; three miles astern was the 1st Light Cruiser Squadron, and ten and a half miles on the port quarter of the *Courageous*, in which Admiral Napier flew his flag, were the *Lion* and the battle cruisers.² During the morning watch the *Lion's*

¹ Barrier breakers were trawlers which were specially constructed to resist mine-explosions; their holds were filled with wood, cork and cement.

² The forces actually at sea were:

1st Cruiser Squadron:

Courageous (flag)
Glorious

screening destroyers

Ursa
Nerissa
Urchin
Umpire

CO

M

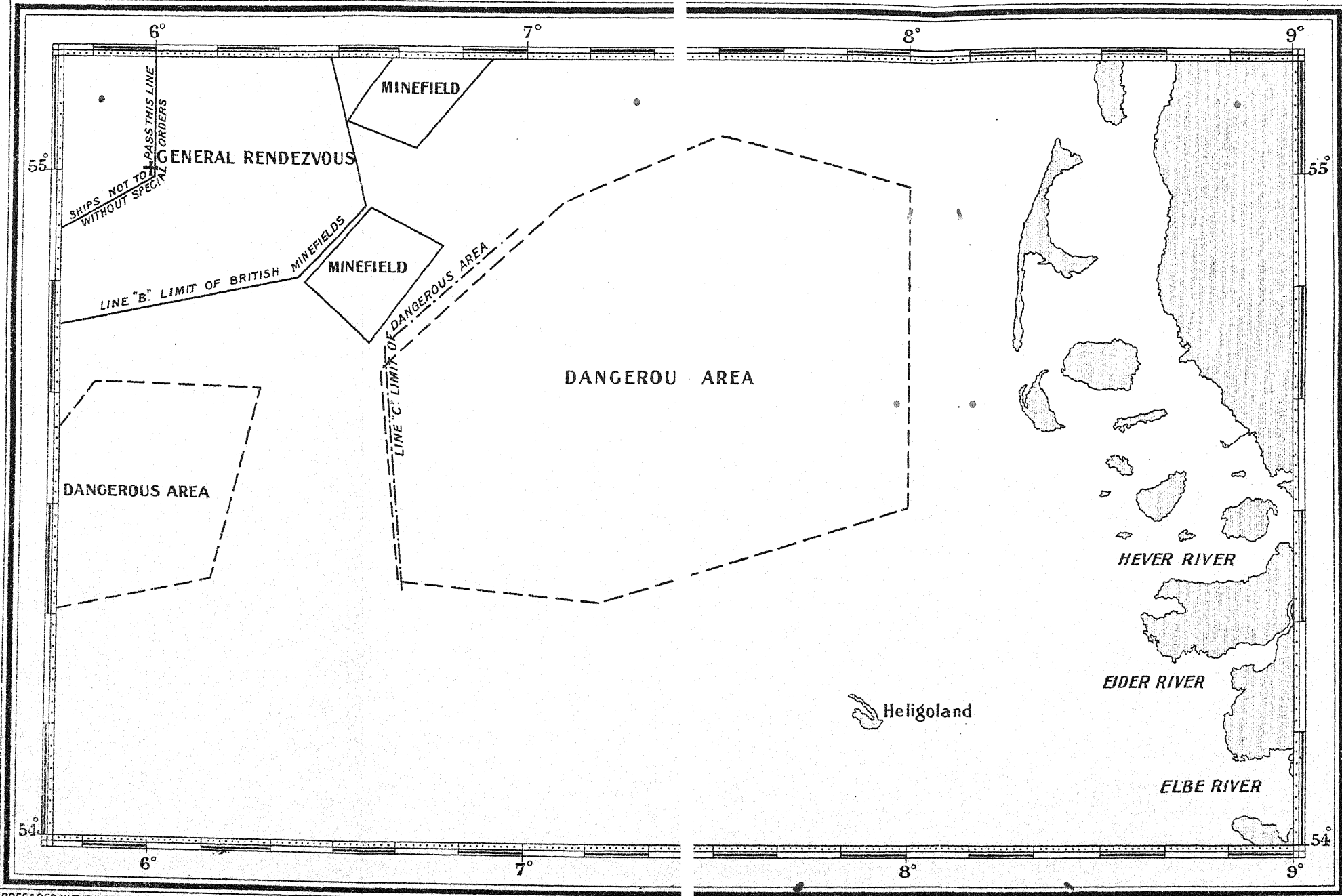
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FIEL

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Extract from mine chart issued to Vice-Admiral commanding Light Cruiser Squadrons on November 17th. 1917.



[illegible]

Ordnance Survey 1931

lice-Ac

1.5.
4.4.17
no plugs

6.
8.4.17
plugs

1.17
195

aid 8.11.15.

5

ENCE.

signal staff had got indications of German wireless; but beyond this nothing suggested that there were German forces about. The look-out men in the *Courageous* were the first to sight the enemy (7.30);¹ and a few minutes later, just as the *Cardiff* took in a signal from the 1st Cruiser Squadron that the enemy were in sight to the eastward, she also made out the German forces. They were in three groups: the northernmost appeared to be made up of minesweepers and destroyers, the central one of a group of submarines; whilst to the south, slightly to starboard of our line of advance, were three or four light cruisers. The 1st Cruiser Squadron, being the most advanced, began the action: at 7.37 the *Courageous* opened fire with her 15" guns on a light cruiser on the starboard bow; the *Glorious* opened fire almost simultaneously on a second light cruiser, also to starboard; the *Cardiff* (6th Light Cruiser Squadron) and the destroyers screening the squadron upon the minesweepers and submarines of the northern and central groups. The light was stronger in the east than in the west; and the heavy shells from the 1st Cruiser Squadron, falling amongst the minesweepers and destroyers, were the first indications that the Germans got of our presence.

Admiral von Reuter and his captains met the danger

6th Light Cruiser Squadron :

| | | |
|-----------------------|----------------------|-------------------|
| <i>Cardiff</i> (flag) | screening destroyers | <i>Valentine</i> |
| <i>Ceres</i> | | <i>Vimiera</i> |
| <i>Calypso</i> | | <i>Vanquisher</i> |
| <i>Caradoc</i> | | <i>Vehement</i> |

1st Light Cruiser Squadron :

| | | |
|--------------------------------|----------------------|-----------------|
| <i>Caledon</i> (broad pendant) | screening destroyers | <i>Vendetta</i> |
| <i>Galatea</i> | | <i>Medway</i> |
| <i>Royalist</i> | | |
| <i>Inconstant</i> | | |

1st Battle Cruiser Squadron :

| | | |
|----------------------------|----------------------|-------------------|
| <i>Lion</i> (flag) | screening destroyers | <i>Champion</i> |
| <i>Princess Royal</i> | | <i>Verdun</i> |
| <i>Tiger</i> | | <i>Telemachus</i> |
| <i>New Zealand</i> | | <i>Oriana</i> |
| <i>Repulse</i> (rear flag) | | <i>Nepean</i> |
| | | <i>Obdurate</i> |
| | | <i>Tristram</i> |
| | | <i>Petard</i> |
| | | <i>Tower</i> |

1st Battle Squadron :

| | | |
|-------------------------|----------------------|------------------|
| <i>Revenge</i> | screening destroyers | <i>Saumarez</i> |
| <i>Royal Oak</i> | <i>Noble</i> | <i>Valhalla</i> |
| <i>Resolution</i> | <i>Nonsuch</i> | <i>Prince</i> |
| <i>Emperor of India</i> | <i>Napier</i> | <i>Mischief</i> |
| <i>Benbow</i> | <i>Penn</i> | <i>Munster</i> |
| <i>Canada</i> | <i>Paladin</i> | <i>Narbrough</i> |

¹ See Map 7.

without flinching. The light cruisers and destroyers made a rapid movement towards our forces, and covered the mine-sweepers with a tremendous smoke screen: the auxiliaries slipped their sweeps and their gear and made off to the eastward: only one ship was left behind. The armed trawler *Kehdingen*, a mark boat for the sweeping forces, had anchored in the position assigned to her at seven o'clock, and had hoisted the recognition signals of a mark boat. Before the crew had time to weigh or to slip the cable, a shell struck her, and she lay helpless across our line of advance: after that her destruction was only a question of time.

The action opened in great confusion and uncertainty. Shortly after the *Courageous* opened fire, Admiral Napier signalled to the 1st Battle Squadron that an unknown number of enemy's light cruisers were in sight, bearing E. The signal was intercepted in the *Lion*, and, two minutes later, the sound of gunfire warned Admiral Pakenham that the forces ahead of him were coming into action. He was, however, still quite uncertain of the enemy's strength and composition, and before the *Courageous* and the ships in the 6th Light Cruiser Squadron could elaborate their first reports, the Germans disappeared into the smoke screen which their destroyers had laid across our track. The British cruisers could, therefore, only check their fire and steam towards the curtain of smoke ahead of them, uncertain of what they would find on the other side.

For the time being they got only occasional and baffling glimpses of the enemy. At 7.45 the *Caledon*, of the 1st Light Cruiser Squadron, sighted the enemy, and Commodore Cowan signalled that they bore east-south-east. He added, however, that he could not tell how many enemy ships were present, so that this new report by no means cleared up Admiral Pakenham's uncertainty. Ten minutes later, several ships in the squadron sighted three enemy cruisers on a southerly bearing, steering west; but they almost instantaneously disappeared. The destroyer *Ursa*, accompanying the 1st Cruiser Squadron, got in a shot with a torpedo; but it was not until well after eight o'clock that the position began to clear.

At eight o'clock Admiral Napier, in the *Courageous*, reached the smoke screen and turned sharply to the south; and when he cleared the smoke he could make out three of the enemy's light cruisers to the south-east on an east-north-easterly course (8.07); four minutes later he noticed that the enemy had turned to the south-east. Admiral Napier reported both these observations to the 1st Battle

Squadron, and his messages were intercepted in the *Lion*. On receiving the first one, Admiral Pakenham ordered the *Repulse* (Admiral Phillimore) to support the *Caledon* (1st Light Cruiser Squadron). Having given the order, he led the battle cruisers round to port across the wake of our light cruiser squadrons.

When the enemy made the south-easterly turn which Admiral Napier reported to the 1st Battle Squadron, Admiral von Reuter had successfully completed his perilous concentration: his auxiliaries were to the north-east, retiring from the action, and no British forces had been detached to attack them. He had, thus, drawn all our forces after his four light cruisers, and could do nothing but steam through the mine-fields towards the battleships that were being held in support.¹ His squadron was none the less in very great danger. He was being followed by a force of overwhelming strength; and although he had gained a forward position against which the British broadsides could not be brought to bear, the forces against him were so numerous and powerful that a single mischance might bring disaster upon his squadron. One 15" shell from the *Courageous* or *Glorious*, falling in the after part of one of his ships, might at any instant reduce her speed by a few knots: if it did he would have to abandon her as Hipper had abandoned the *Blücher* nearly three years before.

It was only after Admiral Napier reported the enemy's turn to the south-east that our squadrons were able to keep them under regular fire. The *Glorious* and *Courageous* opened on the cruisers ahead of them at ten minutes past eight, two minutes later the *Cardiff* also opened upon them; but the *Ceres* and *Calypso* could not get the range until ten minutes later, when the *Inconstant* and other ships of the 1st Light Cruiser Squadron began to fire. The enemy was thus under a very heavy fire at twenty minutes past eight; and the gunnery officers in the fighting tops of our cruisers reported that we were beginning to hit. The destroyers *Vanquisher* and *Valentine*, which were accompanying the 6th Light Cruiser Squadron, moved out to deliver a torpedo attack (8.20), but were compelled to abandon it and rejoined the *Cardiff* under a heavy fire.

The enemy still had a long way to go to safety and our cruisers were steadily overhauling them: this, combined with the growing accuracy of our gunfire, evidently caused them great anxiety: at about 8.20 they made a fresh smoke screen, which obliged the *Calypso* (6th Light Cruiser Squadron)

¹ His light cruisers were *Nürnberg* (flag), *Pillau*, *Königsberg* and *Frankfurt*. Scheer, pp. 430, 431.

to check her fire; fifteen minutes later, Admiral von Reuter put up a dense smoke screen and his whole squadron completely disappeared behind it. The enemy's second attempt to disguise their movement put Admiral Napier into great perplexity. He was now approaching the line which represented the utmost limit of his advance into the minefields. So long as he kept the enemy well ahead he could follow them without danger; for it was safe to assume that they would only steam through waters which they had cleared; but at the very moment when Admiral Napier reached what he considered to be a danger point (line B), the enemy had put up a huge smoke screen which might be intended to disguise a large alteration of course. Admiral Napier therefore turned his squadron eight points to port, as he did not feel justified in pressing on in the prevailing uncertainty. When Admiral Napier turned, the *Courageous* was about two and a quarter miles to the northward of the 1st and 6th Light Cruiser Squadrons. The 1st Light Cruiser Squadron was crossing astern of the 6th at a very short distance. Admiral Phillimore, in the *Repulse*, was six miles on the *Courageous's* port quarter, and had not come into action.

All ships checked their fire as the Germans disappeared behind the smoke screen; Admiral Napier held on to his north-easterly course for five minutes, and then sent a message to the 1st Battle Squadron that he had lost sight of the enemy cruisers steering south-east, and that the 1st and 6th Light Cruiser Squadrons were still in pursuit. Both Admiral Alexander-Sinclair and Commodore Cowan conformed to Admiral Napier's movement and made considerable alterations to port soon after 8.40. Between 8.40 and nine o'clock, therefore, all our squadrons lost ground.

The 6th Light Cruiser Squadron made the smallest turn, and consequently took the lead, and it was upon the *Cardiff* that the German gunners scored their first hits. At 8.50 a high-explosive shell struck the *Cardiff's* fo'c'sle and started two troublesome fires; soon after she was struck again in the superstructure above the after control position, and again in a compartment where the torpedoes were adjusted and got ready for the tubes.

Just as the Germans were getting the range, and their fire was beginning to tell, their last smoke screen began to clear, and we could see that their cruisers were still on the same course. Admiral Napier now decided to resume the chase, and to follow the enemy into the minefields for another twelve miles. This second advance would carry him to the edge of an area which, as we have seen, had first been notified

as dangerous during 1915, and he considered that it must be regarded as an absolute barrier to all further advance. At 8.52, therefore, as the target became clearer, he ordered an alteration to starboard; the 6th and 1st Light Cruiser Squadrons altered to starboard at about the same time, and the firing began afresh. Meanwhile, however, Admiral Pakenham, in the *Lion*, decided to recall the cruisers.

After detaching the *Repulse*, Admiral Pakenham had steered to the eastward until about 8.30; then, after detaching some destroyers to rescue the *Kehdingen's* survivors, he had turned his squadron to the westward; his intention was to occupy a supporting position to the north of the general rendezvous given in the original operation orders. At 8.52 the *Lion's* wireless staff took in Admiral Napier's signal that the enemy were out of sight and that the 1st and 6th Light Cruiser Squadrons were pursuing them. Although he possessed better and more detailed information with regard to the minefields than any of the other Admirals in the operating squadrons, Admiral Pakenham was very doubtful whether any good purpose would be served by pursuing the enemy through the intricate and twisting passages between the fields. He had already warned Admiral Phillimore not to take the *Repulse* into the minefields (8.27); and now, on receiving Admiral Napier's signal, he decided that our pursuit of the enemy ought to cease. The signal read as though contact with the enemy had been completely lost, and gave him no inkling that the enemy had temporarily disappeared behind a smoke screen; he therefore ordered all operating squadrons to rejoin him at the general rendezvous (8.58). This general recall was received in the *Courageous* just after nine o'clock: all our ships were then firing again, and the *Repulse* had now come into action. Admiral Napier was therefore reluctant to act at once on the order he had received. He had just decided to make a further advance into the minefields; and he thought—quite wrongly it is true—that the enemy had been reinforced since they had disappeared behind the smoke screen, and that, in consequence, our light cruisers needed the support of his heavy guns. He therefore sent back two messages in quick succession to Admiral Pakenham: in the first he stated that he had just sighted the smoke of six ships, and that they were "in addition to those reported at 7.30" (9.05); in the second he stated that he was still engaging the enemy (9.10). Admiral Pakenham's recall was, therefore, not acted upon, and our squadrons continued the pursuit.

The action was continued under very unsatisfactory

conditions. The *Courageous* and *Glorious* had lost so much ground by the turn to port that their shots fell far short and they were compelled to check their fire (9.07-9.15). The cruisers of the "Galatea" class¹ in the 1st Light Cruiser Squadron, found their four-inch guns were of no use in the long-range fighting. As a result only the six-inch guns of the 6th Light Cruiser Squadron and of the *Caledon* were now effectively in action.

It was at about this time that Admiral von Reuter decided to check our pursuit by a torpedo attack. His line of ships was again covered in heavy smoke at a quarter-past nine, and, as it cleared, a torpedo was reported from the *Royalist*; it passed ahead by a narrow margin; but the torpedo danger zone evidently covered our whole line of advance. A moment later, some six miles on the *Royalist's* port quarter a torpedo passed only thirty yards ahead of the *Cardiff*. For the next ten minutes torpedo tracks were repeatedly reported in all three squadrons.

Although our firing had throughout been intermittent, the control officers were convinced that it had severely damaged at least one ship in the enemy's line, which was reported to be on fire and to be lagging astern. Something, at all events, seems to have been causing Admiral von Reuter considerable anxiety; for, at about half-past nine, all our ships reported that the German line was again enveloped in heavy smoke. A few minutes later, the torpedo attack began afresh, and appears to have been supplemented by attacks from a submarine on the *Repulse's* starboard beam. Commander Fremantle of the destroyer *Valentine*, who had been accompanying the 6th Light Cruiser Squadron with the *Vimiera*, the *Vanquisher* and the *Vehement*, first sighted the submarine (9.30). The *Repulse*, which was then astern and approaching from the north-westward, seemed severely threatened, for the submarine was well ahead of her and on her starboard bow; Commander Fremantle at once gave Admiral Phillimore the warning, and closed the *Repulse* with his destroyers.

Meanwhile, Admiral Napier had reached what he considered to be the utmost limit of his advance, and altered sharply to starboard (9.32). His new course ran along the edge of what he had marked on his chart as a danger area, and from this moment the *Courageous* and *Glorious* were out of the action. The officers commanding the light cruiser

¹ The *Galatea*, *Royalist* and *Inconstant* had been designed primarily to hunt down destroyers; they were armed with two six-inch, and six four-inch guns. Their broadside fire was two six-inch and three four-inch guns.

squadrons, who had not marked the danger zone upon their charts, and did not know that it existed, continued the chase.

Admiral Napier turned to starboard about half an hour after Admiral Pakenham sent out his general recall, and though he had withdrawn his cruisers he was still reluctant to break off the action altogether, by complying with Admiral Pakenham's order, and calling off the 1st and 6th Light Cruiser Squadrons. He therefore asked the commanding officers of the light cruiser squadrons whether they had any hope of bringing the action to a successful conclusion, and told them to use their discretion about pressing on into the minefields; he also gave a general order that the *Repulse* and the heavy cruisers were not to advance further.

When Admiral Napier was drafting this message, the long interrupted gun duel seemed at last to be approaching its decisive moments. The control officer in the *Caledon* had just reported that the rear ship in the German line was certainly in distress and that the other cruisers were closing in on her as though to give her support; the 1st Light Cruiser Squadron had, in consequence, been turned to starboard to bring all guns to bear. The Germans, on their part, were firing vigorously, and one of their cruisers scored a destructive hit on the *Calypso* (9.40). It penetrated the roof of the upper conning tower, and burst as it passed through. Everybody in the confined, enclosed space of the conning tower was killed, and Captain Edwards, on the bridge, was mortally wounded; the navigator, Lieutenant-Commander M. F. F. Wilson, was also struck down and rendered unconscious, all the officers and men on the lower bridge were killed, and it fell to Lieutenant H. C. C. Clarke, the gunnery officer, to take command. The vital electrical communications of the ship were nearly all severed and damaged, and the firing was of necessity slowed down; but in the other ships the hope of bringing the action to a decisive end was rising, and great efforts were being made to increase the rate of fire.

The hope of fighting the action to a finish did not last long. Just before 9.50 a salvo of heavy shell fell all round the light cruisers, and the look-out men reported battleships and battle cruisers to the south-east. They were actually the battleships *Kaiser* and *Kaiserin*, which had moved up from Heligoland on receiving the first reports of the action from Admiral von Reuter. One of the shells from their opening salvoes struck the *Caledon* on the water-line, but fortunately did no damage. Admiral Alexander-Sinclair at once ordered all ships present to turn sixteen points, and led the 6th Light Cruiser Squadron round to port: there was

some little delay in getting a searchlight signal through to Admiral Phillimore; but a few minutes after ten all our ships were retiring north-west, with the *Repulse* covering their retreat. The last shots of the fight were fired from Admiral Phillimore's flagship; one of them struck the *Königsberg*. It went through her three funnels, through the upper deck and into a coal bunker, where it burst and started a serious fire.

Meanwhile Admiral Napier had been steaming to and fro along the limiting line of his advance, waiting for the light cruiser admirals to answer his question about fighting the action to a decision. At ten o'clock he received a disquieting reply: it was from the *Galatea*, and reported, "enemy battleships, battle cruisers and light cruisers bearing south-east, steering east." This message was, however, followed by several others which showed that our light cruisers were not seriously engaged with the battleships that had suddenly appeared. There was indeed no cause for anxiety, as our forces were not pursued or molested during their retirement. Even though the Germans had wished to follow up the *Repulse*, they would hardly have been able to do so; for at 10.40 a dense fog came down and completely covered our retirement. Just after one o'clock the light cruiser squadrons were in touch with Admiral Napier, and our forces withdrew without further incident across the North Sea.

The Commander-in-Chief was dissatisfied with the results of the action. The large forces allotted to the operation had not succeeded in cutting off the minesweepers and auxiliaries which they had been sent out to destroy, and had allowed themselves to be enticed into a long and unsatisfactory stern chase. Even this had not been properly or energetically conducted, as the 1st Cruiser Squadron had never pursued the enemy at more than twenty-five knots, and had practically broken off the chase at 8.40. The Admiralty agreed that the results of the action were most disappointing, but their criticism was mainly directed against Admiral Napier's turns to port between 7.30 and eight o'clock, and his failure to increase speed in the early part of the action. Admiral Napier maintained that he was fully justified. Soon after he sighted the enemy, they completely screened their movements; and his own intermittent observations between 7.30 and eight o'clock suggested they were then either moving across his bows to the north-westward, or steering an opposite course to his own. His first turn to the north at 7.45 had only lasted two minutes, and he had been obliged to make it in order to clear the 6th Light Cruiser

Squadron. As for his general swerve to northward between 7.30 and eight, he had made it to prevent the enemy from escaping to the northward across his bows; and he had not thought it necessary to steam at full speed on an easterly course, when he might at any moment have discovered that the enemy were attempting to escape to the west. It was only at eight o'clock that he realised that the enemy were escaping to the south-east; and then pursuit was made extraordinarily difficult by the minefields. If he had possessed the information with regard to the minefields, and the German channels through them, which was supplied to him later, he might have foreseen the German line of retirement, and would certainly have been able to pursue them more vigorously.

The Admiralty were in the main satisfied with Admiral Napier's reasons; but their investigation stopped short of one final question which might have cleared up a matter of some obscurity. Admiral Napier was no doubt embarrassed by the lack of information which should have been supplied to him. But even if he had been better served in this respect, how would he have been thereby enabled to pursue more vigorously? The enemy were visible, flying before him: where they could go he could follow, with the certainty of being able to withdraw if a powerful supporting squadron should be sighted. For the present he was in superior force, and his gunners had already found their target: why then did he decide to follow the enemy at twenty-five knots instead of closing them at thirty? Was this an error of judgment, a failure to realise his opportunity, or was he influenced by some adverse consideration which has not been disclosed? The question was not put, and will probably never now be answered; yet it is one which will continue to be of interest, and the authentic answer to it might have recorded an instructive experience.

What the Admiralty did elucidate by their inquiry was that the existing method of keeping the fleet informed of the state of the minefields in the Bight of Heligoland was dangerously haphazard, in that information in the possession of one of the operating Admirals had been issued to another in a totally different form, while the two remaining Admirals had never received it at all. These considerations led to a question as to the efficiency of staff work in the Battle Cruiser Force, but the Admiralty considered it was unnecessary to pursue the matter further, arrangements having been made whereby information regarding the minefields should in future be supplied by the Admiralty direct.

CHAPTER V

THE END OF THE YEAR 1917 IN HOME WATERS¹

I

The Dover Barrage. November–December 1917

It was in September that the German submarine captains began to abandon the outer approaches to the British Isles and to operate closer in, but this tendency did not become a settled policy until November. There was a lull in the enemy's submarine operations during the first half of the month; but between the 13th and the 18th nine submarines were located in the approach routes. Their principal zones of operation were the St. George's and the English Channels; and it was quite clear that the focusing points of the German attack would henceforth be the localities where the convoys dispersed. These operations might, indeed, be the preliminary moves in the general campaign against the convoy system, which Admiral Sims had foreseen in September. The U-boats which were now concentrating on the Channel and the approaches to Liverpool appeared, moreover, to be passing almost entirely through the Dover Straits; as far as we could tell, the north-about route was temporarily abandoned. It was natural, in these circumstances, that the Admiralty should give special thought to the defence of the Dover Straits and the Pas de Calais. On November 17 they appointed Rear-Admiral Roger Keyes, the Director of the Plans Division, to be Chairman of a "Channel Barrage Committee."² The committee was instructed to investigate the

¹ See Map 9.

² Its other members were Captain F. C. Learmonth, R.N.; Captain Cyril Fuller, R.N.; Captain F. S. Litchfield-Speer, R.N.; Colonel Alexander Gibb, R.E.; Mr. W. McLellan.

The committee's terms of reference were as follows:

The committee is appointed for the purpose of investigating and reporting on the possible measures for constructing a barrage across the Channel between England and France.

The committee is particularly charged with the following duties: to

whole question of barring the Dover Straits to enemy submarines, and in particular to inquire whether the barrage which was being maintained between the South Calliper and the Flanders coast did actually obstruct German submarines or not.

The committee's inquiries had thus to cover both the existing barrage and the plans for enlarging it that Admiral Bacon had recently put forward. Early in July he had proposed to the Admiralty that the barrage should be supplemented by a deep minefield between Cape Gris Nez and the Varne Shoal, and the Admiralty had approved. The first lines of mines in this field were about to be laid when the committee assembled. Their first report to the Board was highly critical of the existing barrage. They had no difficulty in proving that throughout the year German submarines had passed through the Dover Straits without difficulty; it was even probable that they actually used the large light buoys along the barrage as navigational marks. As an obstruction to surface craft the barrage appeared to the committee to be almost equally useless. During a visit to the Straits, the committee had put to sea in the *Swift*, and had passed over the upper jackstay of the barrage from which the explosive nets were suspended. Admiral Bacon, it is true, intended to double the numbers of the supporting buoys, and so bring the jackstay nearer to the upper surface; but the committee doubted whether this would greatly alter matters. During their investigations they had also visited the Swin, where an experimental barrage had been laid; by accident the *Swift* had been taken across it. The net was certainly found to be damaged, but not the *Swift*, which was drawing fourteen feet at the time. In view of this, and of a great deal of similar evidence, the committee concluded that the existing barrage was no obstacle either to surface vessels or submarines. They were, indeed, inclined to believe that the enemy would regret the loss of the barrage if it were ever removed; and drew attention to stratagems by which the Germans were encouraging us in a false confidence in the efficacy of the obstruction. Their positive proposals, however, differed only

consider in what respects the barrage already attempted has not been successful and why.

To consider in detail the practicability from all points of view and probable efficiency of any scheme or schemes which can be put forward, showing clearly every detailed requirement which is involved in the construction, equipment, maintenance and defence of the barrage in the matter of personnel, plant, materials and equipment—the latter, of course, including all vessels and guns employed in its defence.

slightly from Admiral Bacon's; they urged, as he did, that a deep minefield should be laid between Gris Nez and the Varne, and that, when completed, it should be extended towards Folkestone; and they too urged that the deep minefields should be swept by searchlights. The committee were, however, at issue with Admiral Bacon on this general question of lighting. Knowing, as they did, that submarines always dived deeply when caught in a searchlight beam, they considered it essential that the whole surface of the minefield should be strongly illuminated, and that lightships and intermittent flares from trawlers should supplement the searchlights. They were convinced that unless submarine commanders were repeatedly detected in these zones of light they would get into the habit of clearing the deep minefield on the surface. As soon as they did so, it would be useless. Admiral Bacon was, however, only prepared to sanction a modified lighting scheme—he strongly deprecated the use of lightships—and on this point his disagreement with the committee's findings was a disagreement on a question of principle.

In conclusion the committee recommended that every possible assistance and encouragement should be given to those who were experimenting upon certain new and promising devices; when brought to perfection, these new devices were to be used in a new barrage laid further to the eastward. This requires a brief explanation. Professor Bragg was at the time experimenting with an extremely delicate device for detecting submarines, known as "indicator loops"; and the Mining Division at the Admiralty were engaged in perfecting designs for mines which would be automatically detonated by the sound waves, or by the magnetic lines of force, generated when an iron ship passed over them. The second barrage, which the committee recommended, was to consist of four whole lines of these new mines, laid between the South Calliper and the Dyck shoal; an elaborate system of indicator loops was to traverse the Channel between the two obstructions.

There were thus considerable differences of opinion between the Admiralty Committee and Admiral Bacon. A channel would have to be left free for ordinary traffic, at each end of the deep minefield, and it was an open question, upon which the Admiralty and Admiral Bacon were not agreed, whether these channels ought to be mined or strongly patrolled; the best method of maintaining a searchlight patrol over the minefield was also doubtful. In ordinary circumstances these differences would either have been composed, or the Admiralty would have allowed the local com-

mander discretion to act as he thought best; but the circumstances were far from ordinary, for the German submarines were passing through the Straits of Dover in an unbroken procession.

On November 29, when the committee's report was presented to the Board, there were eight German submarines in the English and St. George's Channels. *U 96* was off the Smalls; *U 101* was off the north coast of Cornwall, *U 57*, *UB 80*, *UB 62*, *UB 35* and a UC-boat whose number could not be identified were in the Channel itself; a week later, there were eleven boats out, distributed roughly in the same areas, and nearly all their reliefs were now passing through the Straits of Dover. For months past, papers taken from German submarines had made it fairly clear that the Dover barrage was no real obstacle to them, and the latest captures made this more certain. Two officers and three seamen had been saved from *UC 65* when she was torpedoed by the British submarine *C 15*; and from them it was learned that although submarine commanders generally passed the barrage at night high water, and waited on the bottom if they reached the Straits before high tide, they never had any difficulty in crossing the barrage jackstay. The prisoners captured from *U 48*, which was sunk on November 24, told the same story. Indeed, it appeared from a chance remark by the captain that all German submarines, large and small, would henceforth use the Dover Straits route. The prospect was alarming. When submarines used the long north-about route, seven, and sometimes eight, days separated the date on which the U-boat left her base from the date on which she sank the first merchantman of the cruise. The same number of days generally separated the dates of the last sinking and the return to harbour. A U-boat generally remained at sea for twenty-five to thirty days, so that if the Dover barrage, by its mere existence, had achieved the great success claimed for it, it would have kept the U-boats to the north-about route, and compelled them to spend one-half of each voyage in unproductive cruising.¹ If German U-boat commanders still felt at liberty to use the shorter Dover Straits route, and found by experience that they could do so with impunity, they would reach their cruising grounds off Ushant and the Scillies in about sixty-five hours, and productive waters in about twenty-four. Nor was this all: there was now always one, and sometimes there were two homeward-bound convoys in the English or the St. George's Channel. This German

¹ The Straits were navigated 334 times during 1917, and only three submarines were sunk.

concentration against the terminal points of our most important convoys was in itself ominous, and the threat was the stronger in that the concentration was taking place almost without opposition from our side. If this was the beginning of that general attack upon the convoy system which Admiral Sims had foreseen in September, it was highly important that it should be met and resisted. On December 14, therefore, the Admiralty, after long discussion, ordered Admiral Bacon to concentrate his patrol craft upon the deep minefield which now ran continuously from near the French shore to the Varne: he was, if necessary, to withdraw them from the barrages on the Flanders coast and across the Channel. He was further directed to assemble a strong force of destroyers to protect the new concentration against raids from Zeebrugge. This order involved such large changes in his system of defence that Admiral Bacon sent the Admiralty a long and considered reply. He had at once carried out the Admiralty's wishes by reinforcing the minefield patrol; but he felt obliged to represent that the sudden and drastic alteration in his general plan of defence could only be carried out at a grave risk. As an obstruction to submarines the Belgian barrage might not have given the results expected of it; but if it were maintained, Admiral Bacon was confident that German destroyers raiding the Straits would be compelled to pass down the channel near West Kapelle. So long as the enemy was thus held to a single entrance and exit route, a group of our destroyers at Dunkirk could occupy the German line of retirement after the alarm was given, and would always be a danger, and consequently a deterrent, to any force of German destroyers raiding the Straits. On the other hand, any redistribution of Admiral Bacon's forces which removed or weakened the Dunkirk detachment would correspondingly expose the drifters and patrol craft on the minefield to a shattering attack. Moreover, a reduction in the number of patrol craft allotted to the Belgian barrage would give the same result through another chain of cause and effect. When the patrol was reduced, the Belgian barrage would fall into disrepair, and the German destroyers and submarines would be free to use whatever entrance and exit routes they chose.

On receiving this letter, the Admiralty at once summoned Admiral Bacon to a conference at Whitehall; it took place on December 18, and only served to emphasise the existing differences of opinion between Admiral Bacon and certain sections of the Admiralty Staff. The actual subjects discussed were severely technical: how the drifters should be

distributed, whether destroyers on patrol should enter beams of searchlight, and whether destroyers working in the Straits by night would be unduly exposed to attacks by coastal motor-boats; but the discussion of these professional questions provoked a sharp difference of opinion upon points of strategical principle. Admiral Bacon was determined to distribute his forces so that they secured the important points in his command; those points were numerous and scattered, and he consequently felt compelled to divide and allocate his forces in order to give effect to his general plan. To some sections of the Admiralty Staff this seemed a mere waste of opportunity; in their opinion every available vessel in the command should be concentrated on or near the deep minefield, and the whole system of defence should resolve itself into a system for compelling German submarines to dive on to the mines. These differences were no longer differences between a local commander and the High Command; they divided the Admiralty itself, where several officers could not be persuaded to admit any serious alteration in the defence of the Dover Straits. The events of the next twenty-four hours very much strengthened the position of those officers who supported the committee's recommendations. Admiral Bacon left London in the afternoon, after giving an undertaking that he would station a flare and searchlight patrol on the minefield when he returned to Dover. He actually did so on the night of the 19th, and on that same night *UB 56* was driven into the mines and destroyed.

The barrage committee presented their second report on December 21. It was little but an elaboration of the previous proposals for using new types of mines and new detecting devices when they became available, and was therefore rather a plan of technical policy than a project of reform. But this second report gave additional force to the opinions of those who were urging the correlative policy of concentrating patrols upon danger areas; for they argued that all these devices and obstructions would never be effective unless the patrols drove the German submarines into them; the existing dispositions would not suffice for this, and nothing but the most drastic redistribution of patrol and surface forces would serve.

But although these arguments were powerful, they did not persuade those members of the Board who were opposed to a revision of the existing system of defence in the Straits. Meanwhile, however, the Admiralty were investigating the causes of a disaster which had occurred a few days previously.

The Second Attack on the Scandinavian Convoy.¹
December 11-12, 1917

We have seen that the² discussions which followed the October raid upon the Scandinavian convoy had ended in a proposal to lengthen the intervals between any two successive sailings. The Admiralty could not, however, decide definitely in favour of this proposal until they had examined the state of the Scandinavian trade and assured themselves that the projected change would not disturb its normal processes. The question was complicated by a recent agreement between the British and Norwegian Governments, whereby Great Britain had promised to send 250,000 tons of coal to Norway every month. The deliveries for November were less than half the promised quota; and the Admiralty naturally hesitated to sanction proposals which could only cause further delays in the sailings and deliveries of Scandinavian trade.

After very careful inquiries, it was decided that if the Scandinavian traffic was to be expedited, its passage must be shortened. This, however, could not be arranged without consultation between the Admiralty and the local authorities; so, on December 10, Captain Henderson, representing the Naval Staff at Whitehall, arrived at Longhope for a general conference with the officers in charge of the Scandinavian convoy. His main proposal, that the convoys should start from Methil instead of Lerwick, was agreed to without any dissent from the local authorities. With this starting point, the voyage would be much shortened; Methil was, moreover, a more natural point of departure for vessels engaged in the Danish and Swedish trade, besides being in itself a better-equipped harbour than Lerwick.

The Commander-in-Chief agreed with the findings of the conference, but felt obliged to warn the Admiralty that, though the new plan would increase the carrying power of vessels engaged in Scandinavian trade, it would at the same time make the convoys more vulnerable to surface attack, as the new route would be appreciably nearer the German bases. The only remedy, in his opinion, would be to assimilate the Scandinavian to the Atlantic convoy system, and so put the convoys between Scotland and Norway under the protection of the cruisers engaged in oceanic escort work. A few

¹ See Maps 10, 11.

hours before the Commander-in-Chief sent off this warning, Admiral Scheer had completed his last preparations for a second attack on the Scandinavian trade.

His new plan was more embracing than the last, in that not one but two points on the convoy route were selected for attack. A half-flotilla of destroyers was to attack the convoy in the war channel along the East coast, another half-flotilla was to operate at the eastern end of the Bergen-Lerwick line. These two half-flotillas, the 3rd and 4th, together made up the 2nd Flotilla, a formation composed of the newest and fastest German boats. They left harbour on the 11th, escorted by the light cruiser *Emden*, and at three o'clock in the afternoon were off the north-eastern corner of the Dogger Bank. There they divided, the 3rd Half-Flotilla, under the command of Hans Kolbe, held on to the north; the 4th steered west-south-westwards towards the British coast near Newcastle.

At two o'clock on the afternoon of the 10th, the destroyers *Ouse* and *Garry* had left Lerwick with the south-bound coastal convoy. The Scandinavian convoy left harbour every day as usual; and on the 11th the destroyers *Pellaw* and *Partridge*, with four armed trawlers, the *Livingstone*, *Tokio*, *Commander Fullerton* and *Lord Alverstone*, took the east-bound convoy of six vessels out of Lerwick. They were due to arrive in the Marsten leads early in the afternoon of the following day, and were to pass through two rendezvous; the first fifteen miles south of Lerwick, the second twenty-five miles south-west of the entrance to Bjorne Fiord.

During the afternoon and evening of the same day two cruiser squadrons put to sea. The 3rd Light Cruiser Squadron (*Chatham*, *Yarmouth* and *Birkenhead*) left Rosyth with four destroyers at a quarter-past five. They were under orders to be thirty miles west-south-west of Jaederen at half-past eight on the following morning (December 12), to sweep across the mouth of the Skagerrak towards Bovbjerg, and to return home after dark. "This force," said Admiral O. de B. Brock in an inquiry which took place later, "was sent out in accordance with the general policy of making periodical sweeps to cover the approach of vessels on the Bergen-Lerwick route; and, in addition, of giving early information of enemy forces coming out of the Bight." At ten o'clock in the evening of December 11 the *Shannon* and *Minotaur* (2nd Cruiser Squadron) with four destroyers, left Scapa to patrol the convoy route between Lerwick and Norway. They were known as the covering force, and Captain V. B. Molteno of the *Shannon* was in charge of it. His orders were to make contact

with the west-bound convoy on the morning after he left harbour; to move eastwards across the convoy route and cover the east-bound convoy, which would be crossing during the day.

Whilst these forces were leaving harbour the 3rd Half-Flotilla was approaching the British coast. At about five o'clock the German commander of the half-flotilla intercepted a group of British wireless messages which very greatly influenced his plan of operations. These messages, as read in the German flotilla, seemed to show that a force of British destroyers would leave the Firth of Forth that evening in charge of a south-bound coastal convoy, that there was a group of eight British cruisers at Rosyth, a force of destroyers at the Tyne, and two destroyers at Immingham. This information was incorrect in every particular, but it was especially misleading with regard to the convoy which was supposed to be leaving the Firth of Forth. No mercantile convoy was either entering or leaving the Forth: the only convoys off the coast were the south coming convoy escorted by the *Ouse* and *Garry*, and the convoy for the east coast ports escorted by the *Rother* and *Moy*; both had left Lerwick during the 10th. It is quite true that escort forces had been mentioned in signals made from local stations during the day; these, however, were not escort forces in the sense that the German commander gave to the words, but groups of destroyers, torpedo boats and auxiliary patrol craft detailed to patrol the war channel and control the coastal traffic.

None the less, the German commander's search for a phantom convoy was likely to bring him very near to a real and substantial one. His course was converging fast with that of the *Ouse* and *Garry*, and the six merchantmen that they were escorting. At noon (11th) they were roughly in the latitude of Aberdeen, at four o'clock, an hour before the German commander read the intercepted signal from Inchkeith, they were about forty-five miles east of Fifeness. At half-past nine they sighted the Longstone Light, and they passed it just before eleven o'clock, without suspecting that a powerful enemy force was lurking in the darkness to the east of them. After nightfall the weather became thick and rainy, and two Scandinavian vessels, the *Peter Willemoes* (Danish) and the *Nike* (Swedish), did not keep their station; but the destroyer officers, thinking that they had fallen out deliberately in order to make for Blyth direct, did not attempt to rally them. It was probably this that saved the rest of the convoy; for the German half-flotilla was, by now, close at hand.

About half an hour after midnight the German destroyers

fell in with the Danish steamer *Peter Willemoes*, some twenty-five miles to the east of the war channel, and sank her with torpedoes. The Danish captain, who was under the impression that he was about six miles east of the Farn Islands, had thus come very far out of his reckoning.

The German half-flotilla commander now steamed in towards the coast, expecting to make the Longstone Light; but was quite baffled to find that it was not burning. As very little shipping moved along the war channel during the dark hours, the Admiralty had long before made arrangements with the Trinity House that certain coastal lights should be lit up only at certain specified times, and extinguished when no longer required. On this particular night the commanding officer of the escort that was bringing the convoy south had asked that the Longstone Light should be shown between half-past nine and half-past eleven. The result was that the light was extinguished when the German half-flotilla approached the land, and its commander, finding that the whole coast was in utter darkness, was compelled to round the Farne Islands at a safe distance. He fell in with nothing on his northerly course, and so, thinking that the convoy he believed to have left the Firth of Forth that evening had slipped past him, he soon turned south again.

When the *Peter Willemoes* was torpedoed, the *Ouse* and *Garry* were abreast of Coquet Island, only thirty miles to the southward. The Germans, therefore, still had time to overtake the convoy and destroy it before dawn; and if they had taken the Danish seamen from the *Peter Willemoes* on board, they would doubtless have realised this, and would not have wasted time by steaming northwards along the war channel before they finally turned south. It was a singular piece of good fortune for the convoy just to the south of them that the German commander never once used his opportunities for checking and verifying the inaccurate information with which he had been supplied.

At four o'clock in the morning the German destroyers picked up the Swedish steamer *Nike* off Blyth. She had not straggled so far as the *Peter Willemoes*, and when they overhauled her the convoy was not more than twenty miles ahead. Again the Germans lost an admirable chance; for they torpedoed the *Nike* as they had torpedoed the *Peter Willemoes*, and made no attempt to take prisoners or to ascertain the real position: indeed, they did their work so hastily that they left the *Nike* under the impression that they had sunk her, whereas she was still afloat, though in great difficulties. As the German destroyers steamed away they sighted four

small steamships; these inoffensive vessels were assumed to belong to the convoy for which the Germans were seeking, and a murderous fire was opened upon them. One was sunk, the others escaped; and the German commander, after making a rapid search for other signs of the convoy and finding nothing, turned for home. It was about five o'clock when the Germans set a course for the Bight, so that the half-flotilla was well out of sight of land by dawn.

On our side it was not realised for several hours that the traffic in the war channel had been attacked by surface craft. Just after four o'clock the look-out station at Blyth reported heavy gunfire to the north-east; about a quarter of an hour later the Hartlepool station confirmed this by another report of gunfire from the same direction; later on the naval depot at North Shields sent a message to the Admiralty that the *Ouse* and *Garry* were probably responsible for the firing. The Senior Naval Officer at the Tyne asked the escort commander whether he had heard the firing, and received an immediate reply: "Yes; but it seemed a long way off." This was reassuring, in that it proved that the convoy was in no danger.¹

The matter would probably have been cleared up earlier had it not been that the two trawlers which escaped the German destroyers during the night reported that they had been attacked by a submarine. This seemed to explain the mysterious firing that had been heard during the night, and the Admiralty made no further inquiry. At noon on the 12th, therefore, the authorities at Whitehall were still unaware that enemy warships had been operating in the war channel during the dark hours; but even if they had known of it earlier, it is hardly likely that they would have been able to parry or avoid the second blow, which was then about to fall.

A quarter of an hour before noon (12th) the *Pellew's* convoy was approaching the second rendezvous, to the south-west of the Bjorne Fiord. The *Partridge* was astern of her; and behind the *Partridge* was the convoy of six ships with an armed trawler leading, and armed trawlers on each flank. There was a stiff north-westerly breeze blowing, and the swell was extremely heavy; if the destroyers tried to increase their speed, they were at once washed down. The look-out men in both destroyers sighted strange ships on the northern side of the convoy at practically the same instant. The *Partridge*

¹ The convoy arrived at the Humber between three and four in the afternoon of the 12th. Neither of the destroyer captains had the slightest suspicion that the stragglers from the convoy had been attacked by surface craft during the night.

attempted to challenge; but the searchlight was then found to be out of order, and ten whole minutes went by before the challenge was actually made, and a warning sent to the *Pellew* that it had been wrongly answered. During those ten minutes the strange vessels steadily approached the convoy, and they were only five miles away when the alarm gongs were sounded in the British destroyers, and the *Pellew* ordered the convoy to scatter. The commanding officers of the two destroyers now prepared to defend their convoy as best they could. The *Pellew* steamed across the convoy's bows to get on to their exposed flank; the *Partridge* followed her, and, just before the action began, sent off a signal to the Commander-in-Chief, informing him that the convoy escort was in contact with an enemy whose number and composition were unknown. Neither of the destroyer captains had been told that there was a covering force of cruisers at sea, so that they could only send their warning to the Commander-in-Chief.

Lieutenant-Commander J. R. C. Cavendish of the *Pellew* hoped that he would be able to gain time for the convoy by engaging the enemy closely and hotly; but the Germans were in sufficient strength to thwart his manœuvre. Three of their destroyers steered a parallel course to that of the *Pellew* and *Partridge*, and engaged them fiercely; the fourth was detached to deal with the convoy.

The British destroyers were no match for their opponents, and they were, moreover, in the leeward position. The north-west wind swept a blinding storm of spray into the faces of their gunners, and when the *Partridge* and *Pellew* were in the trough of the waves, nothing was to be seen of the enemy except their masts, and the tops of their funnels. The Germans made admirable use of their advantage; and, as usual, their fire was extremely accurate and rapid. Although the terrible precision of the enemy's shooting meant death to most of those who saw it, the officers and men in the British destroyers watched the fall of the German salvoes with a sort of bitter admiration. From the very beginning matters went badly with the British destroyers, and both began to suffer. The *Partridge*, indeed, was a doomed ship. After a few moments of firing, a shell struck her at the forward end of the engine-room, and severed the main steam-pipe. In an instant the engine-room was filled with scalding steam, and the ship came to a standstill. Everybody working at the engines was scalded to death, and, though Engineer-Commander P. L. Butt and a chief engine-room artificer attempted repeatedly to enter the engine-room and give

assistance, they were always driven out by the boiling steam. A few minutes later another shell struck the after gun, and put it out of action; almost simultaneously a torpedo struck the ship forward, and she began to settle down. The *Partridge* had now as little power of manœuvre or resistance as an ordinary practice target, and Lieutenant-Commander R. H. Ransome, the commanding officer, gave orders that the ship was to be abandoned; at the same time he directed the engine-room staff to do everything in their power to see to it that the ship sank rapidly.

As the crew were attempting to clear away the boats, the enemy's destroyers came inside the firing arc of the *Partridge's* torpedo tubes; but in order to cause no delay in the escape of any possible survivors, Lieutenant A. A. D. Grey and Lieutenant L. J. B. Walters determined to fight the torpedo tubes by themselves. They manned the after tube, and fired a torpedo which struck one of the enemy's destroyers without exploding; they then went forward, but found that the deck beneath the other tubes was so buckled that the training gear was immovable. Soon afterwards Lieutenant Grey was wounded in the thigh; he was put, with the first lieutenant, into a boat which capsized, and threw both of them into the water: Lieutenant Grey now mustered his strength for a great effort. He saw that the first lieutenant was getting very exhausted, and helped him to swim to the nearest raft. When they reached it Lieutenant Grey found that it would carry only one more person; he refused to take the vacant place himself, but put the first lieutenant on to it, and swam away towards the nearest German destroyer. The water was intensely cold, and he was swimming in it for nearly half an hour with the blood flowing from his wound all the time; but he reached the German destroyer at last, and the German seamen hauled him on board; just before he fell down unconscious, he saw a terrific explosion in the *Partridge*, as she sank, struck by a third torpedo.¹

Meanwhile the *Pellew* escaped by a miracle. After her gunners had fired a few salvos she was struck in the engine-

¹ These details were supplied, later, by Engineer-Commander Butt, on whose recommendation Lieutenant Grey was awarded the Silver Medal and Certificate of the Royal Humane Society. Equally meritorious was the action of Engineer-Commander Butt, who was awarded the D.S.O. He tried, three times, to get into the engine-room after the main steam-pipe had been severed. He finally succeeded when the ship was sinking: it was still full of steam, and pitch dark, as the dynamos had long since ceased to work; but he groped his way through the steam and darkness, and rising water, and opened the door of the starboard condenser, in order to make the ship sink more rapidly.

room, and her speed fell rapidly. Lieutenant-Commander Cavendish turned his ship away, and ordered the officers at the torpedo tubes to open fire. Only one torpedo could be fired, as the electric leads to the after tube had been pierced; and if the enemy had detached even one destroyer to deal with the *Pellew* she could hardly have survived. But by good fortune a blinding rain squall covered the *Pellew* as she yawed out of the fight, and the enemy did not follow her closely. As she sagged away they turned back and steamed into the convoy, to complete the destruction that the detached destroyer had already begun. No ship or armed trawler escaped: within an hour of the enemy's first appearance nothing was left of the convoy or its escort but the *Pellew*, steaming towards Norway with her port engine-room full of water, and a few ship's cutters, with a handful of survivors on board lying wounded and half conscious below the thwarts, or splashing listlessly at the oars as the boats laboured and drifted in the heavy seaway.

The *Shannon* was the first ship to get news of the disaster. At noon her wireless-room staff intercepted the *Partridge's* message to the Commander-in-Chief; and Captain Molteno at once ordered his cruisers to work up to twenty knots. At a quarter-past twelve another intercepted message was reported to him. The call signs of the emitting ship had been made completely unrecognisable by interference from Telefunken; but the message itself ran thus: "Enemy destroyers at T rendezvous."¹ When Captain Molteno received this second confirmatory warning of disaster his detachment of cruisers and destroyers was about sixty miles to the westward of the enemy's position. He immediately ordered his destroyers to steam ahead, and followed on himself at twenty knots.

The *Partridge's* message was handed to the Commander-in-Chief at five and twenty minutes past twelve. It gave no indication of the enemy's strength or composition, and Admiral Beatty had in consequence to make provision for meeting what might prove to be a large movement by the High Seas Fleet. He at once ordered the 5th Battle Squadron, the 2nd and 4th Light Cruiser Squadrons, and the Battle Cruiser Force, to raise steam. A few minutes later, however, he received, from the *Shannon*, the second report that enemy destroyers were at the convoy's eastern rendezvous. This cleared up the position considerably, and he

¹ This was the convoy's eastern rendezvous, twenty-five miles south-west of the entrance to Bjerne Fiord.

ordered the 3rd Light Cruiser Squadron to sweep towards the position where the enemy were reported (1.03 p.m.).

The Admiralty got news of the attack upon the northern convoy route and of the enemy's operation off the East coast at nearly the same time. The Commander-in-Chief's message reached them just before two o'clock, and about seven minutes earlier, the Senior Naval Officer at the Tyne telephoned to Whitehall to say that enemy destroyers had been off the Northumbrian coast during the night. As the two incidents were obviously connected, and might be mere diversionary moves preliminary to a large concerted operation, the Admiralty ordered the Grand Fleet and the Harwich Force to raise steam and be at an hour and a half's notice.

Meanwhile Lieutenant-Commander Cavendish of the *Pellew* had brought his damaged vessel to the safety of the Norwegian coast at the entrance to Selbjorn's Fiord. As he approached the Island of Slotterö he was met by the Norwegian torpedo boat *Hvas*, whose commanding officer, Lieutenant Hans Solheim, treated him with great courtesy and consideration and towed him to a safe anchorage. Just after three o'clock Captain Molteno, in the *Shannon*, received a signal from Lieutenant-Commander Cavendish, to say that the *Pellew* had reached Slotterö, and was unable to steam.

The *Shannon's* destroyers, which had steamed ahead when the first news of the disaster came through, reached the boats and rafts at about two o'clock, and spent the next hour picking up survivors. The German half-flotilla thus had about two and a half hours' start of the first British forces. There was still a chance, however, that they would be intercepted and brought to action. The 3rd Light Cruiser Squadron was patrolling between the south-western coast of Norway and Bovbjerg, and was thus right upon the line of the German retirement.

It so happened, moreover, that Captain L. C. S. Woollcombe, the senior officer of the squadron, was given timely warning of the disaster. He had reached the northern end of his patrol line at the appointed time, and spread his cruisers over a front of about ten miles. At noon on the 12th the three cruisers were about one hundred and fifty miles to the south of the convoys eastern rendezvous, steering south-south-east towards Bovbjerg. The *Birkenhead* was on the *Chatham's* port beam and the *Yarmouth* to starboard of her. The *Rival*, the destroyer acting as a submarine screen to the *Birkenhead*, was the first ship in the squadron to get news of the attack on the convoy. Just after noon, she, like the *Shannon*, took in the *Partridge's* first report, and at once

signalled it to the *Birkenhead*: at five and twenty minutes past twelve it was in Captain Woolcombe's hands. He at once turned his squadron sixteen points, and made for the position where the enemy was reported. By the time he received the Commander-in-Chief's order he had advanced over twenty miles towards the convoy's eastern rendezvous. All the afternoon Captain Woolcombe and his colleagues swept northwards; and, if the enemy had returned to the Heligoland Bight by the way they had left it, their half-flotilla could hardly have failed to have come within sight of Captain Woolcombe and his cruisers during the afternoon. An extraordinary chance saved them. During their run northward the German destroyers had fallen in with very bad weather, and when the work of destroying the convoy was completed, the German commander of the half-flotilla determined to make for the Skagerrak and return by the Baltic, where he would get into more sheltered water. Their homeward course thus ran fairly near the Norwegian coast.

All the afternoon Captain Woolcombe and his colleagues swept northwards, watching closely for any sign of the enemy: they saw nothing; the Germans most probably passed astern of them at about five o'clock. They cannot have been very far off, yet none of the look-out men in the light cruisers or the screening destroyers sighted anything, and at four o'clock, when dusk began to fall, the *Yarmouth* and the *Birkenhead* closed the *Chatham*, and the whole squadron was formed in single line ahead. By nightfall the last chance of bringing the Germans to action was gone; and the forces which put to sea from Rosyth that night served only to cover the *Pellew* on her return from Norway.¹ The damaged destroyer—the only ship that had survived the disaster—reached Scapa with the *Shannon*, *Minotaur* and four destroyers during the morning of December 15.

Three days after the convoy had been attacked a conference of officers assembled at the Admiralty to consider the decisions that had already been taken by the previous conference at Rosyth. What had happened did not shake the conviction that Methil, not Lerwick, ought to be the port of departure of the Scandinavian convoy; and the conference considered all the implications of this change in the organisation, and submitted a detailed plan to the Admiralty. It was approved, and early in the new year the new system was put into operation; the convoys between the Humber and

¹ 1st Battle Cruiser Squadron, 1st Light Cruiser Squadron, and six destroyers.

Methil were run daily; those from Methil to Scandinavia and back every three days. The management of the convoys themselves was left to the Admiralty; the provision of covering forces to the Commander-in-Chief. Although the convoys were sent northwards to the latitude of Aberdeen before they crossed to Norway, the new route across the North Sea was considerably longer, and closer to the German bases than the old route between Lerwick and the Bergen leads. The convoys, which had already been successfully attacked on two occasions, would thus be more exposed under the new system than under the old, but in order to give absolute security to a traffic which carried loads of political responsibilities in addition to the cargoes, the Commander-in-Chief regularly attached a battle squadron to the covering forces. This allocation of a battle squadron to the defence of trade was a great departure from the principle of rigid concentration which had dominated the organisation and employment of the Grand Fleet since the war began: it was illustrative of the extent to which the war against commerce had engaged our strength and resources.

3

The Submarine Campaign, December 1917¹

Throughout the last month in the year the German inshore attack, begun in the middle of November, continued with unabated vigour and with considerable success. The total sinkings, which had fallen off in the previous month, showed a marked rise, and during the last week of the month losses along the coastal route were particularly severe. The increasing use of the Dover Straits by the heavy type U-boats, which was an alarming feature in the month's campaign, has been already described elsewhere. The counter attack upon the German submarines showed a marked decline. Only five U-boats had been destroyed in Home Waters during the course of the month; another had been lost by accident.²

If all the outstanding facts of the year's campaign were

¹ See Map 1.

² *UB 81*, deep minefield in the Channel (Dec. 2); *UC 69*, rammed by *U 96* off Cape Barfleur (Dec. 6); *UB 75*, lost in mine nets off Flamborough Head (Dec. 10); *U 75*, lost in minefield off Borkum (Dec. 13); *UB 56*, lost on mine or mine net off the Belgian coast (Dec. 19); *U 87*, lost in an action with convoy escorts *P 56* and *Buttercup*—in the Irish Sea (Dec. 25).

reviewed they supported no positive conclusion and justified no hard and definite forecast. The most important result to the Allies was that the average daily destruction of each operating submarine had fallen steadily since the summer months. On this point the tables kept by the French Staff were instructive :

| 1917 | Number of operating S/Ms. | Total number of days spent on active operations. | Tonnage destroyed in Atlantic. | Tonnage destroyed in Channel. | Yield | |
|------------|---------------------------|--|--------------------------------|-------------------------------|----------------|---------------|
| | | | | | Ships per day. | Tons per day. |
| January . | 23 | 310 | 241,000 | 6,500 | 0.5 | 775 |
| February . | 35 | 410 | 353,000 | 29,000 | 0.455 | 860 |
| March . | 40 | 455 | 405,000 | 58,000 | 0.55 | 889 |
| April . | 50 | 660 | 550,000 | 46,000 | 0.375 | 870 |
| May . | 41 | 535 | 385,000 | 23,500 | 0.40 | 717 |
| June . | 50 | 745 | 498,500 | 88,000 | 0.25 | 669 |
| July . | 47 | 720 | 423,000 | 44,500 | 0.215 | 588 |
| August . | 38 | 630 | 349,000 | 26,000 | 0.19 | 485 |
| September | 53 | 850 | 233,000 | 65,500 | 0.14 | 274 |
| October . | 41 | 620 | 289,000 | 62,500 | 0.15 | 466 |
| November. | 39 | 515 | 165,000 | 67,000 | 0.165 | 320 |
| December. | 50 | 760 | 216,000 | 67,000 | 0.13 | 284 |

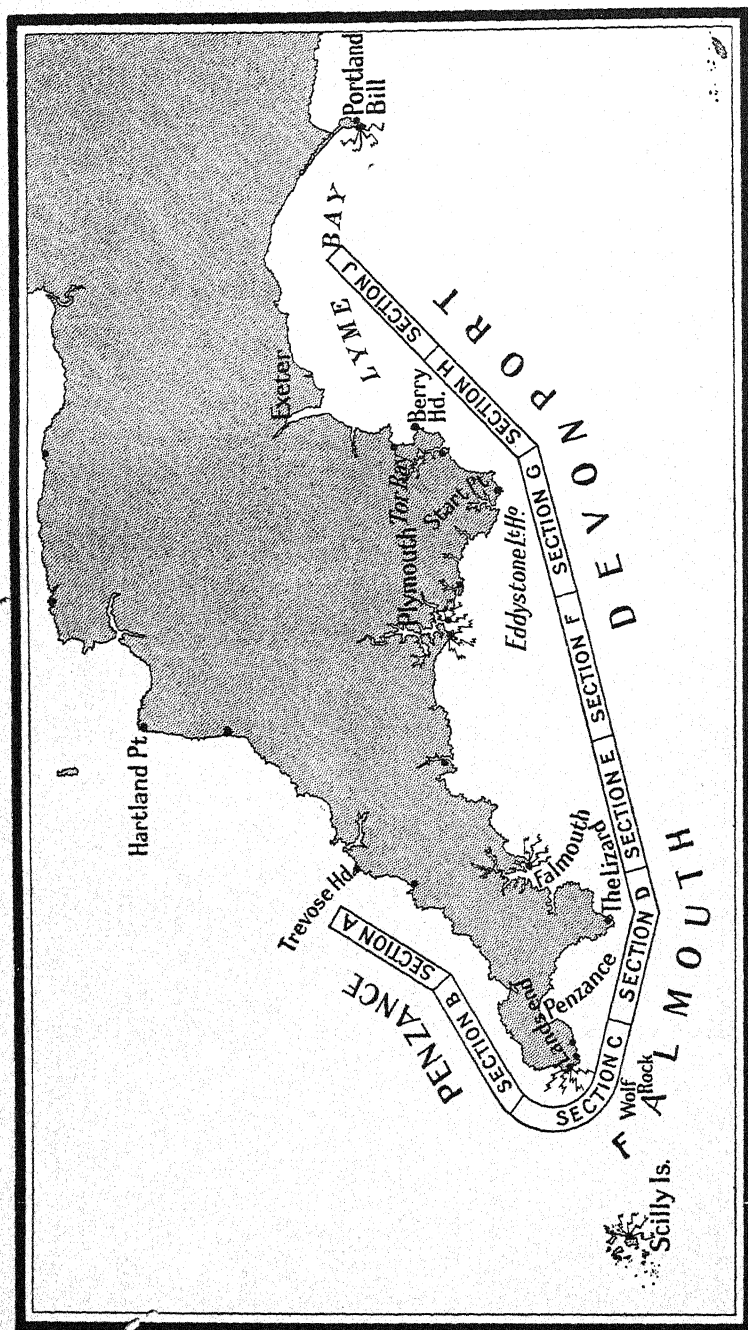
This steady decline in the daily yield of each submarine was proof that the efficacy of our counter measures, taken as a whole, had risen. The concentrated attack against the inshore routes and the terminal points had not, however, increased the dangers to which the operating submarines were exposed in any marked degree. They were now acting in zones which were patrolled by flotillas fitted with the detecting apparatus from which so much had been hoped at the beginning of the year. Although these hunting flotillas were establishing contact with submarines in the Channel and the Irish Sea almost every day, they were quite unable to maintain contact for any length of time, or to keep on the track of a single submarine for long enough to hamper its operations seriously. The failure of the hydrophone flotillas was particularly noticeable in the Irish Sea, a zone in which enemy submarines had been operating for the last three months of the year. The Admiral at Milford, Vice-Admiral C. H. Dare, had realised the weakness of the system that he was administering as soon as the Germans began to operate seriously in the Irish Sea. In the middle of October he sent in a reasoned report on the position. "It is fatal," he wrote,

"to send out ships on the assumption that local patrols can protect them. . . . The situation resolves itself, in my opinion, as follows: Is it advisable to allow ships to pass through Home Waters unescorted? The only solution which suggests itself to me is:

- (a) to escort convoys to their port of destination;
- (b) for coastal vessels to be formed into convoys and escorted along the coast by drifters, or other small auxiliary patrol vessels.

If sufficient escorting vessels cannot be found to carry out this duty, it is suggested that vessels, if the requirements of the country permit, should be retained in port until escorts are available. In short, this would mean that all vessels should be escorted, and would entail the withdrawal of all local patrols, in order to supply the necessary escorts. This method would have at least one great advantage, in that a submarine would be compelled to attack within reach of a vessel capable of active retaliation. With the present system of patrols this is not the case: the enemy can, with the greatest ease, evade them, and only attack a merchant ship when they are absent. The hydrophone flotillas might still be retained at work on their present patrols, but I am of opinion that, with the present instruments, and the incessant bad weather . . . these vessels are a waste of useful ships."

Events showed that Admiral Dare's appreciation was sound and accurate. The Irish Sea, with its narrow entrances, should have been an exceptionally suitable theatre for the operations of the hydrophone flotillas; for U-boats entering by the southern entrance ought to have been detected and followed by the line of hydrophone drifters, which Admiral Dare maintained between the Welsh shore and the south-west coast of Ireland. At least five and possibly more U-boats passed the line during November, and were never once detected by the hydrophone flotillas. Throughout the month Admiral Dare was compelled to send as many ships as he could assemble to the place where the German submarine was last reported. On December 1 he instituted the first local convoy in his command, and put three ships under escort between Barry Roads and Milford. Being convinced that this was the only method of giving better protection to merchant traffic in the Irish Sea, he decided to take vessels away from their patrolling duties, and to use them for local escorts. He was well justified by results; during December his local forces escorted twelve convoys—seventy-four ships in all—between Milford, Holyhead, Kingstown, and the south



PREPARED IN THE HISTORICAL SECTION OF THE COMMITTEE OF IMPERIAL DEFENCE.

of Ireland. Not one of the escorted ships was lost or damaged.

Admiral Dare's local convoys were, however, a particular measure in a particular zone. Their success was an incident in the greater and more comprehensive successes of the convoy system. The actual state of submarine warfare at the end of 1917—that is, the counterpoise of the attack and the defence—can best be understood by examining a few typical incidents in the Channel, the zone where the attack against trade was being prosecuted with the greatest vigour.

The coastal route between Hartland Point and Lyme Bay was divided into nine sections called A, B, C, D, E, F, G, H and J. Of these A and B were allotted to the Penzance command, D, E and F to the Rear-Admiral at Falmouth, and the remainder to the Commander-in-Chief at Plymouth. The whole coast was watched by a string of war signal stations, connected by land wires to the general telegraphic system of the country; the stations at the Scillies, Land's End, Falmouth, Plymouth and Portland Bill were fitted with wireless.

Although considerable forces of Auxiliary Patrol vessels were allocated to the French coal-trade convoys, there was still a sufficient residue for escorting traffic along the coastal routes, and patrolling its various sections. It was only in quite exceptional circumstances that the patrolling forces in any given section numbered less than two vessels. A flotilla of hydrophone vessels—motor launches or trawlers—had been allotted to each local command. These were the "hunting flotillas" which held so important a position in the plan that the Admiralty had drawn up at the beginning of the year.¹

On December 18 no submarine had been reported between Land's End and Lyme Bay for three days, and traffic was moving normally. The weather was stormy, and though the patrol vessels were on their stations, the hydrophone flotillas were sheltering in harbour. At 11.0 a.m. the out-bound convoy of seventeen sailed from Falmouth, and the trawlers in sections "F" and "G" were temporarily moved from their patrol stations to form a screen off the Eddystone. The convoy sailed out of the Channel without incident; but at half-past one in the afternoon the s.s. *Riversdale* was torpedoed off Prawle Point. The trawlers detached from the section which lay opposite to Prawle Point had not then returned to their station, and the Devonport hydrophone

¹ The hydrophone flotillas were actually stationed at Newlyn, Falmouth and Devonport.

flotilla was sheltering in Tor Bay. There was, thus, no hope that the submarine could be chased; so the Commander-in-Chief at Devonport ordered all traffic between Plymouth and Portland to be held up. An hour later he received a report that the s.s. *Vinovia* had been torpedoed eight miles south of the Wolf Rock. This position was well outside section "C" of the Falmouth command, so that, again, there was no chance of starting a chase. All that could be done was to send assistance to the survivors.

These two casualties, occurring as they did within a period of two hours, showed that two submarines were at work within the Falmouth and Devonport commands. As there had been no sinkings for three days previously, it was reasonable to suppose that these submarines had only just arrived, and would remain in the zone for several days to come. There was thus a chance that the hunting flotillas would detect them and run them down.

During the night the Rame Head wireless station reported red lights to the southward of the Eddystone Lighthouse; and the Commander-in-Chief at Devonport ordered the trawlers on section "F" to investigate. Two trawlers—the *Mewslade* and the *Coulard Hill*—went to the spot, and one of them set a hydrophone watch. Neither saw nor heard anything, so that at daybreak on the 19th the hunting flotillas could only guess where the operating submarines were from the positions of casualties that had occurred some fifteen hours before.

Early in the morning of the 19th the Falmouth hunting flotilla moved to Cadgwith Bay near the Lizard, and the Newlyn hydrophone motor launches took station off Land's End. The Devonport Flotilla was still held weather-bound in Tor Bay—they could not put to sea, as the wind was strong in the north-east and east. During the forenoon the commanding officers at Falmouth and Devonport received a message, which explained the report about the red lights that had been seen to the south of the Eddystone by the Rame Head wireless station. Airship C 23, patrolling on the coastal route, reported that a steamer was lying abandoned to the south of the Eddystone, and that there was a submarine near by. It was the French steamer *St. André*, on a voyage from Havre to Oran; she had been torpedoed some time after midnight, and the crew had abandoned her. It was impossible to order a special search for the submarine that had done the work; but she was evidently operating near sections "F," "G" and "H" of the coastal route, and these sections were being patrolled by six trawlers.

There was thus a reasonable chance that she would be located shortly.

One of the operating submarines was located during the morning. The sailing vessel *Mitchell*, sailing with a disguised armament under Lieutenant John Lawrie, R.N.R., was then cruising off the north Devon coast. The breeze was off the land, and Lieutenant Lawrie's ship was running free to the south-westward. At ten minutes past ten, when the ship was about six miles to the west-north-west of Trevoze Head, a submarine came to the surface at about 800 yards on the starboard beam. Lieutenant Lawrie opened fire a few minutes later, and there was a sharp exchange of shots; it seemed as though some of the *Mitchell's* shells hit the submarine, but she was evidently not much damaged, for she dived soon after and was not seen again. The trawler *Sardius*, which was patrolling section "A" of the coastal route and was about a mile away, closed the *Mitchell* at full speed, but by the time she arrived the submarine had disappeared and there was nothing more to be done.

At five and twenty minutes past ten, the war signal station at Trevoze Head reported an action between a sailing vessel and a submarine six miles west-north-westward of the point. The message was sent to Penzance, Falmouth, Swansea, Newlyn, Land's End and Whitehall; but it was not until considerably later that the motor launches off Land's End were ordered to change their station.

There were more submarines in the western channel than the authorities imagined. At four o'clock in the afternoon the Belgian steamer *Prince Charles de Belgique* was attacked by a submerged submarine, eight miles west of the Lizard, whilst on her way from Cardiff to Havre. The torpedo missed her by a few feet; and a seaplane from the Newlyn air station, which was patrolling at an altitude of five hundred feet, sighted the submarine and dropped bombs on her.¹ The incident was not at once reported either to the Rear-Admiral at Falmouth, or to the Falmouth hunting flotilla, which were then watching off Black Head, to the north-east of the Lizard; and whilst this new submarine was attacking the Belgian steamer, the submarine which had sunk the *St. André* during the night was located off the south coast of Devon.

At four o'clock in the afternoon the trawler *Take Care*, which was acting as an armed guard for the Brixham fishing

¹ This could not have been the submarine that had been located earlier in the day, and it was certainly not the submarine which was located further east by the *Take Care*.

fleet, sighted a submarine off Berry Head. The skipper engaged her and she made off; but the incident was not reported either to headquarters at Devonport or to the commander of the hunting flotilla in Tor Bay.

Later in the afternoon the hydrophone flotilla off Land's End received orders to track the submarine that had been reported earlier in the day off Trevoze Head, in action with the *Mitchell*. They were ordered to go to Padstow and search, and at a quarter-past five, as they drew near to Trevoze Head, they received further news. A steamer had been sunk off the headland, and the trawler *Lysander*, patrolling in section "A," had the survivors on board. The casualty was the Norwegian steamer *Ingrid II*, on her way to Cardiff for repairs. She was torpedoed and sunk within a very short distance of the *Lysander*, which was then patrolling in section "A."

The hydrophone flotilla took station to the west of Trevoze Head, and at once picked up sounds of a submarine in the north-east. They followed the sound until it was "lost on account of traffic," and then went into St. Ives, at about ten o'clock at night. Two hours previously the Commander-in-Chief at Devonport ordered all traffic to be resumed. He was still unaware that the trawler with the Brixham fleet had located a submarine off Prawle Point a few hours previously. The orders sent out in consequence of the unsuccessful attack on the *Prince Charles de Belgique* only reached the Falmouth flotilla near Black Head at 9.20 p.m., five and a half hours after the attack had been delivered. The commander of the flotilla left one of his trawlers behind, and set a hydrophone patrol with the remainder about six miles to the south of Mounts Bay. They kept watch all night, and heard nothing; but the night did not pass so quietly in other sections of the patrol.

Three Devonport trawlers were watching section "H" of the coastal route, and just before midnight the skipper of the *Rinaldo*—which was one of them—heard and saw an explosion towards Start Point. He steamed towards the spot; but found nothing, for the time being. What he had actually seen was the sinking of the *Alice Marie*—the submarine located by *Take Care* at four o'clock was again at work, and the traffic released by the Commander-in-Chief's order was steaming across Lyme Bay towards her. Two more disasters occurred before daybreak. At twenty minutes past one the skippers of the trawlers *Rinaldo* and *Ulysses* saw another explosion to the north-eastward. It was the steamship *Warsaw*; but for several hours nothing could be found

of her or of her crew, except a ship's boat drifting about in the bay with two dead men lying beneath the thwarts. Even now the night's disasters were not over; for at four o'clock the steamer *Eveline* was torpedoed near the Start. The war signal station at Dartmouth reported the first and the last of these casualties very rapidly, and at a quarter-past five the Commander-in-Chief at Devonport held up all traffic between Portland and Plymouth.

The day passed quietly, there were no more casualties and no more reports. In the morning the Penzance motor launches took station north-east of St. Ives; later they moved to the south and eastward of the Wolf Rock, and later again they moved in to the Runnelstone; they heard nothing throughout the day. Towards evening the Devonport hunting flotilla left harbour to search the coastal route across Lyme Bay. Commander Adrian Keyes, who was in charge of the hunting flotillas, collected three destroyers—*Spitfire*, *Roebuck* and *Opossum*—five motor launches, four drifters, and two fishing trawlers for the operation. He hoped that if his ships were well spread, one or more of them would pick up sounds of the submarine charging its engines, and that, after it had been thus located, the flotilla would be able to bring it to action as it approached the traffic route on the following morning. They heard nothing, naturally, for the submarine they were hunting had now shifted its ground to the eastern part of the Channel.

There is no need to continue the narrative in detail: there were no more sinkings in the zone until the 22nd, when the steamer *Mabel Baird* was sunk off the Lizard, by a submarine which was not detected, either previously or subsequently, by the hunting flotillas; after this there was a lull of three days, and then the succession of fruitless hunts began again.

If these operations, which are typical of those which were being carried on at almost every part of the coast, and on every day of the year, be compared with those described in Volume IV, it will be seen that the methods of submarine hunting had been considerably changed during the interval. In September 1916, the date of our last example, submarines were hunted by destroyers detached for the purpose from the principal destroyer bases; and their operations were directed largely by the Admiralty, who moved them from one area to another, and decided on the zones that were to be searched. At the end of 1917 all submarine hunting was done locally; the Commander-in-Chief or the Senior Naval Officer of the area was practically acting independently of

Whitehall, and the hunting flotillas received their orders and their intelligence of the enemy's movements from the local commanders. It can be seen at a glance that this decentralisation of control was in itself good. It had much reduced the interval which elapsed between the time at which a submarine was reported and the time at which the hunting flotillas were on the spot where it had last been located. Whereas under the old system forty-eight hours or even more went by before the forces detached for submarine hunting could reach their zone of operations, the corresponding interval under the new system was between six and eight hours. It is obvious, however, that although the interval had been reduced, it was still too long; submarines were still operating, without danger to themselves, within a few miles of our hunting flotillas, and the acoustic apparatus, upon which so much material and so much labour had been expended, was not making the problem of hunting for submarines any simpler. Such advance as had been made was an advance in methods and organisation.

It was, however, consoling that whilst every other measure of war undertaken during the year had given results which were doubtful and liable to setbacks, the achievements of the convoy system seemed to be both secure and cumulative. The system had now been in operation for five whole months, and the necessary readjustments in its mechanism had been made without difficulty. Milford was shortly to be substituted for Queenstown as the port of assembly for outgoing convoys, and arrangements had been made for bringing home the Argentine grain harvest in a service of convoys which were to be assembled at Rio. The American Government had allotted heavy cruisers to those Halifax convoys which were carrying American troops and drafts, in order to protect them adequately against surface raiders. The great disadvantage of the system—the loss of carrying power due to delays in harbour—had been practically overcome. Captain Henderson had been in close consultation with the Liverpool shipping owners during November; and, as a result, a strong and representative convoy committee had been set up under the chairmanship of Mr. T. Harrison Hughes. This committee drew up a plan for obtaining the greatest possible economic and commercial return from the convoy system, and its recommendations were agreed to by the Admiralty. As a defence of ocean traffic, the system still seemed unassailable. The German submarine cruisers were still operating in the Azores-Madeira zone, where shipping losses continued. But the enemy's occupation of this

important nodal point in the Atlantic trade routes had only once endangered the convoys that were continually passing through it. During the month of December six convoys from Dakar and Sierra Leone had passed safely through the area in which Gansser and Valentiner were operating. They had apparently not been located; they had certainly not been attacked. In all those areas through which convoys passed the decline in sinkings was even sharper than it had been during the previous month.

It was, indeed, the very effectiveness of the convoy system which had compelled the German submarine commanders to operate closer in, to seek for convoys where the chances of establishing contact were greater, and where ships dispersing from convoy, or on their way to a port of assembly, were exposed to attack. Here the enemy had been successful: the number of ships sunk at a distance of ten miles or less from the land had risen steadily during the last quarter of the year.

This new and dangerous attack could not be combated either by extending the scope or by perfecting the workings of the convoy system. It raised questions of high naval policy which were urgently calling for a solution when the year drew to its close: What was the best method of impeding the passage of enemy submarines through the Straits of Dover; whether destroyers should or should not be detached from the fleet in large numbers to conduct operations against submarines in the North Sea; how the northern barrage should be laid and how patrolled. Each of these questions had provoked divergencies of opinion—the first in particular had sharply divided the High Command.

At this moment, too, a decision was called for upon a matter of the first importance, which had for some time been under anxious consideration. Admiral Jellicoe, as Commander-in-Chief of the Grand Fleet, and afterwards as First Sea Lord, had borne for nearly three and a half years the burden of the naval war. It was a burden in itself great beyond all experience, and since the contest and the hazard were on a Titanic scale, the anxieties of these high offices were even more exhausting than the incessant labour. Great as were Sir John Jellicoe's powers, and admirable as were his devotion and endurance, there was among those who met him frequently at the council table no doubt that the strain was bearing hard upon him, and could not be further prolonged with justice to him or advantage to the Service. During the last days of the year, therefore, he was released from office, and was succeeded as First Sea Lord and Chief

of the Naval Staff by Admiral Wemyss. The Deputy Chief of the Naval Staff, Admiral Oliver, left the Admiralty at the same time, and was relieved by Admiral Fremantle: at Dover Admiral Bacon was replaced by Admiral Keyes.¹

¹ The Board as re-constituted was :

First Lord.—The Right Hon. Sir Eric Geddes.

First Sea Lord and Chief of Naval Staff.—Admiral Sir Rosslyn E. Wemyss.

Second Sea Lord.—Vice-Admiral Sir Herbert L. Heath.

Third Sea Lord.—Rear-Admiral Lionel Halsey.

Fourth Sea Lord.—Rear-Admiral Hugh H. D. Tothill.

Deputy Chief of Naval Staff.—Rear-Admiral Sydney R. Fremantle.

Assistant Chief of Naval Staff.—Vice-Admiral Sir Alexander L. Duff.

Deputy First Sea Lord.—Rear-Admiral George P. W. Hope.

CHAPTER VI

THE BEGINNING OF THE YEAR 1918 IN HOME WATERS ¹

ON the second day of the new year the Commander-in-Chief arrived in London to attend a naval conference in Whitehall. After discussing the impending attack against the Flanders bases—for which preparations had already begun—and for an intensive air attack against the enemy's naval bases, the conference passed on to the principal item upon its agenda: the general situation in the North Sea. The discussion that followed showed the extraordinary changes which a year of unrestricted submarine warfare had caused in our higher strategy. The submarine campaign had certainly been held; the curve of shipping losses was still falling and there was a reasonable hope that, at some time in the spring, replacements would exceed losses. When this occurred, the submarine onslaught against the Allied communications would be finally and absolutely defeated; the great attack upon our seaborne supplies would cease, from then onwards, to be a major strategical operation and would revert to the position which centuries of naval history have assigned to sporadic attacks upon trade. This position was almost in sight; but the success of the British campaign at sea had been gained at great cost, and that cost had been the dispersion of our principal naval forces.² It was true that the battle fleet was still based at Scapa and Rosyth,³ and the auxiliary destroyer forces at Harwich, and that the numerical strength of our North Sea forces was very great. This numerical strength was, however, deceptive. In the North Sea the campaign against the German U-boats now consisted in mining expeditions, in special operations carried out largely by destroyers and light forces, and in escorting vessels engaged in the Dutch and Scandinavian trades. These duties had ceased to be spasmodic and had become continuous, and they were practically all performed by the first line striking forces of Great Britain; for the minelaying expeditions were often covered and pro-

¹ See Map 14.

² See Appendix A.

³ Reinforced on Dec. 7, 1917, by a United States Squadron (6th B. Sq.), Rear-Admiral H. Rodman, Flag, *Wyoming*.

tected by detachments of the battle fleet, which in their turn were protected against submarine attack by large detachments of destroyers. Special operations, on the model of those conducted in October 1917, might and indeed generally did require about fifty destroyers and auxiliaries for their execution. The escort of the Dutch and Scandinavian trades absorbed detachments of first-class ships from the battle fleet, and about thirty destroyer units. Just as we had found, in the early stages of the campaign, that a submarine, operating in a given area, would immobilise great numbers of watching and hunting forces, so, in its later phases, when the whole submarine fleet of the Central Powers was striving to obtain a decision at sea, we found ourselves obliged to take counter-measures, which, in their total consequences, were equivalent to a strategical division of the fleet.

As a result the Commander-in-Chief informed the conference that it was, in his opinion, no longer desirable to provoke a fleet action, even if the opportunity should occur. Such large contingents of our naval forces were now absorbed in the regular duties of the anti-submarine campaign, that he could no longer be certain of meeting the German fleet even on terms of equality. At the request of the Admiralty, the Commander-in-Chief expressed these views in a long and forceful letter which was subsequently laid before the War Cabinet. "So long as he [the enemy] remains in his harbours," wrote Admiral Beatty, "he is in a position to operate on interior lines, and with such forces as he may choose against our vitally important mercantile traffic with the Scandinavian countries. His interior position, and the presence of his agents in neutral ports from which convoys sail, facilitate the execution of surprise attacks with forces stronger than our covering forces. To take an extreme case, it is obviously impossible to have the whole Grand Fleet covering the convoy, whereas it is possible for the whole High Seas Fleet to effect a surprise attack with reasonable prospect of escape to their bases. . . ." The forces detached to cover the convoys must be treated as permanent deductions from the striking strength of the Grand Fleet, as they could not be part of a sudden concentration. This dissipation of force might not, in itself, reduce the Grand Fleet's numerical superiority below the figure considered necessary for safety, but it had to be considered in conjunction with other sources of weakness. In the Commander-in-Chief's opinion, the German battle cruiser fleet was now definitely more formidable than ours. We believed it to be composed of six units—the *Mackensen*,¹ *Seydlitz*, *Moltke*, *Derfflinger*,

¹ The war came to an end before the *Mackensen* was completed.

Hindenburg and *Von der Tann*; and of our nine battle cruisers, only three—the *Lion*, *Princess Royal* and *Tiger*—would be fit to fight in the battle cruiser line. The “Renowns” were insufficiently armoured, the “New Zealands” and the “Inflexibles” were deficient in speed, protection and armament. In addition to this, the absorption of our destroyer forces in the submarine campaign made it virtually certain that the German flotillas would be more numerous than ours in a fleet action. Finally, the new type of shell, decided upon after Jutland, had not yet been supplied to the fleet. Until the summer, the bulk of our battle squadrons would go into action with projectiles that were admittedly of poor design. Was it wise, in these circumstances, to adhere rigidly to the old policy of forcing a fleet action whenever an opportunity occurred? The Commander-in-Chief considered that it was not. “The foregoing review,” he concluded, “represents the situation as I see it. If correct, as I believe it to be, and accepting the principle that trade must be protected, the deduction to be drawn is that the correct strategy of the Grand Fleet is no longer to endeavour to bring the enemy to action at any cost, but rather to contain him in his bases until the general situation becomes more favourable to us.”

The Admiralty endorsed the Commander-in-Chief's letter by a unanimous expression of approval, and, as a corollary to this decision, determined to continue minelaying in the Bight with all the means at their disposal. The enormous quadrant of mines laid across the Heligoland Bight had not, in January 1918, produced any appreciable effect upon the operations of the German U-boats. It had compelled the Germans to create a vast auxiliary service of sweepers and auxiliaries, and it had, indirectly, been the cause of an action between German and British cruiser forces in the late autumn of the previous year; but it had caused the enemy no serious losses, and had, as yet, not closed the Bight to outgoing or incoming submarines. In this sense our minelaying operations had been disappointing, and a strong case could have been made out for abandoning the whole policy, and using the ships released for laying the barrage which the British and American navies were to place across the northern exit to the North Sea.

But our minelaying in the Bight, if continued, might be a powerful auxiliary to the general policy to which we were now committed. The mine barrage, constantly renewed and supplemented at the outer ends of the German swept channels, created a formidable obstacle to the free movement of the High Seas Fleet. No sortie from the German rivers could be undertaken without long preparation; and it was hoped that

these special preparations would be reported, and that we should in consequence have time to assemble the forces necessary for countering the movement.

It seemed, moreover, that the chances of carrying out this policy without interruption were extremely good. Early in the month we knew of a move of German squadrons into the Baltic; and rumours of further disciplinary trouble in the German battle squadrons came through to Whitehall at about the same time. If the rumours were true, the move to the Baltic had probably been undertaken in order to give the commanding officers a chance of restoring order. The German squadrons might therefore be kept in the Baltic for several weeks to come.

The waiting policy to which the main fleets of both sides were now committed had no effect upon the activities of the forces in southern waters, where the game of attack and *riposte* went on without interruption. At the beginning of the year the naval authorities in the southern area brought forward proposals for giving better protection to the Dutch traffic. In order to disguise the convoy routes more effectively, all vessels were henceforward to be assembled in the Black Deep, and the routes to be followed were only to be communicated after the trip had begun. At the same time Admiral Tyrwhitt made arrangements for the vessels in the Dutch convoy to be preceded by minesweepers on that part of the voyage which was outside the areas covered by the local sweepers and patrol craft.

No sooner were these new arrangements working than a force of German destroyers made a flying raid against Yarmouth on January 14. They began shelling the town at about a quarter-past eleven. It was only an hour and a half later that Admiral Tyrwhitt put to sea to intercept them, and by then the German destroyers had retired. The intercepting forces saw nothing of the enemy and returned to harbour at noon on the 15th. In the southern half of the Flanders Bight there was the same restless activity: the *Erebus* bombarded Ostend on January 19; four days later the outpost forces on the Belgian coast came into collision with the Zeebrugge Flotilla. The force supporting the drifters consisted of the monitors *Erebus*, *M 26* and destroyers; this force was at the time carrying out tactical exercises near the Thornton Ridge. To the south-eastward of them, Lieutenant D. L. Webster, R.N.R., was examining the nets from the drifter flagship *Clover Bank*. Just before eleven o'clock he sighted a number of enemy destroyers which opened fire on him and nearly cut him off. He retired on the

supporting division, which eventually extricated him. This succession of minor engagements culminated, a few weeks later, in an action of more importance.

1

*The Defence of the Straits of Dover. January and February 1918*¹

When Admiral Keyes took command at Dover, the Channel minefield ran right across the Dover Straits and the Pas de Calais, and his first concern was to concentrate the patrols upon it. A 12-inch or 15-inch monitor, four thirty-knot destroyers, torpedo boats or "P" boats, fourteen trawlers, sixty drifters, four motor launches and two paddle minesweepers were allocated to the patrol. As the German U-boats generally passed the Straits of Dover after dark, the forces concentrated on the minefield by night were very numerous. The drifters were distributed over the minefield in divisions, a cordon of trawlers was placed round it, and the monitor was kept permanently near the north-eastern end of the Varne Shoal to support this mass of small craft if they were attacked. The trawlers, which all carried flares, were responsible for the illumination of the minefield; "special areas" in which a submarine was reported were to be swept by the destroyers' searchlights. By day the organisation was more simple, and the watching forces were reduced to the number necessary for keeping the minefield under observation.

It was not until the end of the month that these measures met with any success. All through January German submarines operated actively in the Channel and the Irish Sea; four U-boats of the larger size passed through the Dover Straits on their way out and in, and four other large U-boats—which had gone to the Irish Sea by the long north-about route—returned to Germany through the Straits. In addition to these boats of the larger type, fifteen UB- and UC-boats passed through the Dover Straits on their outward and inward journeys. The patrols only located a submarine on three occasions, so that the Germans made between thirty-five and forty unmolested passages through the minefields during the course of the month.

Although this was in a certain degree disappointing, the actual results were better than any obtained under the old system. Four German submarines were lost in the Dover Straits between January 26 and February 8, which, added to the submarine destroyed on December 19, made a total of five

¹ See Map 15.

since the new patrol system had been instituted. During the previous two years only two enemy U-boats had been accounted for in the Dover area. The contrast was therefore striking; and it certainly impressed the enemy, for during the second week in February the Intelligence Division noticed that the U-boats on the long north-about route were again increasing in numbers. The German submarine commanders had, in fact, reported that the Dover Straits were becoming exceedingly difficult to pass, and a special flotilla¹ of large destroyers, stationed in Germany, was under orders to attack the barrage forces.

The German flotillas had not raided the Dover Straits since April 1917, and Admiral Keyes felt certain that his command would not enjoy this immunity from attack much longer. He was not mistaken, and towards the end of January, when the nights were still long and dark, the enemy began to show signs of activity. On January 23, when the drifter *Clover Bank* was attacked by a detachment of destroyers near the Thornton Bank, Admiral Keyes took the incident to mean that something more was impending; but as a matter of fact the enemy were not then ready, and three weeks went by before they delivered the expected attack.

Admiral Keyes had not altered the destroyer dispositions of his predecessor in any important particular. He still maintained a force at Dunkirk to protect the roadstead, and to cover the left flank of the Allied armies, and another force in the Downs anchorage to protect shipping. Every available destroyer at Dover was employed at night; the resting division was sent to the Downs, where the vessels remained at anchor, under short notice, ready to protect shipping or to reinforce the other division in the Straits.

This second division, which was composed of the available flotilla leaders and 4-inch gun destroyers was distributed over what were known as the East and West Barrage Patrols. Each detachment was under orders to patrol to the south of the old net barrage, which was not then being maintained, on two lines, drawn roughly parallel to the axis of the Straits. The western line ran north-east from a point four miles south of the South Goodwin light vessel; the eastern from No. 9 buoy; each line was about five miles long.

The trawlers and drifters were concentrated upon the deep minefields between Folkestone and Cape Gris Nez. On the night of February 14 the light cruiser *Attentive*, and the destroyers *Murray*, *Nugent* and *Crusader* were in the Downs; the

¹ The second, under the command of Captain Heinecke. See Scheer, pp. 314-18.

Swift and *Marksman* were on the West Barrage Patrol, the *Termagant*, *Melpomene*, *Zubian* and *Amazon* on the East Barrage Patrol. The deep minefield to the southward was patrolled by nine divisions of drifters—fifty-eight boats in all. This drifter patrol was maintained on a line joining the south-eastern lightship of the Folkestone Gate to a buoy some three miles north-westward of Cape Gris Nez. To each drifter division was allotted a particular section of the line. Six trawlers were stationed to the north-eastward of the drifter line, and four more on the other side (S.W.) of it. Another group was stationed off Gris Nez. The duty of these trawlers was to burn flares at irregular intervals. Two paddle minesweepers, *Lingfield* and *Newbury*, were patrolling between the south-eastern gate and the Varne lightship; and four motor launches kept watch between the gate and the shore. This mass of auxiliaries was supported by monitor *M 26*,¹ stationed near the north-east Varne buoy, by the destroyer *Racehorse*, stationed between the Varne lightship and the Colbart, and by "P" boat No. 50, stationed between light-buoys Nos. 30 and 31. The French also maintained two torpedo boats in the area between light-buoy No. 31 and Cape Gris Nez. The area between Folkestone and the Gate was swept all night by the Folkestone searchlight; and the destroyers and "P" boats supporting the patrol were under orders, if a submarine should be reported by the drifters, to switch on searchlights and sweep slowly from north-west to south-east. These dispositions had one principal object in view: to make the passage of the Dover Straits as difficult as possible to submarines. But Admiral Keyes had also foreseen that the destroyers on the East and West Barrage Patrols might be unable to stop a surface raid against the drifters and trawlers on the minefield, and had ordered that if enemy surface craft were reported, one-half of the drifter patrol was to scatter and make for the British coast, and the other half was to make towards the French shore. The presence of the enemy was to be signalled by a green Very light, which was to be fired by whoever sighted them.

It was hazy and extremely dark on the night of February 14, and the vessels on patrol could not see far; at some time between 11.30 and midnight, however, Lieutenant W. Denson, R.N.R., the skipper of the drifter *Shipmates*, sighted a submarine about two miles west-south-west from No. 12 buoy. She was going eastwards towards the minefield; Skipper Denson went after her and sent up red and white Very lights—

¹ It was usual to have a 12-inch or a 15-inch monitor commanded by a post-captain on this station. Unfortunately none was available on this night.

the signal for a submarine—but in a few minutes the submarine disappeared in the darkness. The minesweeper *Lingfield* and two motor launches at the north-western end of the minefield detected Skipper Denson's signal. The *Shipmates* then went back to her station, and the vessels that had seen her signal returned to theirs.

At about half-past twelve the sweeper *Newbury* reached the Gate lightship and turned to east-south-east towards the Varne buoy. No signal or warning for special vigilance had been received, and the commanding officer was in his cabin. A few minutes after the ship had been turned, two destroyers steamed up out of the darkness, on a course parallel to hers, and riddled her with shells. Every part of the ship suffered equally: the steam-pipes were severed and sent out sheets of steam, the wood-work caught fire and blazed furiously; the men on deck were shot down. The destroyers passed on rapidly. Lieutenant A. D. Thomson, R.N.R., allowed his battered ship to drift to the north-eastward until she was out of the minefield and then dropped anchor. He was unable to signal: the *Newbury* had only just returned from a refit in the London docks, and her stores had not yet been catalogued and arranged. There may have been green Very lights on board, but Lieutenant Thomson did not know where they were; and in any case he could not have entered the store-rooms of his shattered and burning ship.¹

Unfortunately, it happened that although nearly every vessel in the Straits heard the German destroyers firing on the *Newbury*, about half of them were mistaken about the direction from which the sound came. Commander M. R. Bernard, the senior officer of the *Termagant's* division, heard distant firing and thought that it came from the Flanders battle front; the skipper of the drifter *Chrysanthemum II* heard firing, from the north-east, he thought, whereas it must obviously have come from the north-west. Neither of these officers suspected that enemy destroyers were in the Straits. The war signal station at Dover reported firing to the west-south-west, and a minute later received a confirmatory message from Folkestone; but both stations had already received the *Shipmates'* report of the submarine near No. 12 buoy, so that neither they, nor the Vice-Admiral at Dover, to whom the firing was reported, had reason to suppose that the firing was occasioned by anything but a submarine attack.

There was, however, one officer, near the *Newbury*, who

¹ He stated at the Court of Inquiry that he lit flares of "anything he could find": this must have been much later.

grasped that the firing which he heard and saw came from enemy destroyers. Skipper Denson of the *Shipmates* saw the gun flashes and realised at once that a destroyer attack had begun; but before he could report that the enemy were in the Straits, he was himself in the beams of the German searchlights and his entire division was being swept by a heavy fire. He threw his confidential books overboard and steamed away in accordance with his orders: by about one o'clock he had shaken off the Germans; but he was induced by an unfortunate chain of circumstances to keep his knowledge of this attack to himself. It was not disobedience to orders, but blind fidelity to them, which hampered his judgment at the critical moment. As he cleared the German destroyers, he saw two or three rocket lights go up in the south-east. He knew that this was the signal for enemy surface craft, and he had good enough reason to know that the enemy were not far off; but he could find no mention of any order to repeat the signal if it had already been made. He therefore sent up no rockets and determined to collect his division. He could indeed have reported the incident by wireless; but he had thrown his confidential books away, so that he could not send his message in code or cipher, and he knew that there was an order against sending messages *en clair*. Not even in this desperate emergency would he disregard it; he therefore returned stoutly to his patrol station and reported nothing.

A number of vessels heard the outburst of fire that accompanied this second attack; but here again the commanding officers failed to realise what was happening. The skipper of the minesweeper *Lingfield* closed No. 12 buoy, and, as he approached it, actually saw two ships with their searchlights burning and their guns firing. He concluded that the monitor near the Varne and a destroyer were engaging a submarine, and steamed on until the shells began to whistle over his own bridge; then he turned back.¹ Lieutenant D. V. S. Watson, R.N.R., of the drifter *Begonia II*, between buoys Nos. 13 and 14, heard firing to the north-west and north-east, but formed no opinion as to the cause of it; the commanding officer of the destroyer *Racehorse*, patrolling between the Varne and the north-east Colbart, also heard firing and explosions to the north-eastward: he supposed that Dover was being raided by aircraft. But the most remarkable misapprehension of all was that of the commanding officer of motor launch No. 12.

¹ It is doubtful whether what he saw was the attack on the *Newbury* or the attack on the *Cosmos* division: it seems probable that it was the latter, as he turned north from the Varne lightship at 12.45, just after the attack on the *Newbury* had begun, and only sighted destroyers some moments later.

He was patrolling near the south-east gate lightship and heard the firing, which had gone on ever since the *Newbury* had been attacked; moreover, he saw that a ship to the south-westward of him was blazing. Just before, or just after, the attack on the *Shipmates*, he sighted two destroyers approaching from the north-east; they opened fire on him, and smothered him with shell; but he escaped into the darkness, firmly convinced that he had been attacked by British destroyers of the Dover command, whose officers had mistaken his motor launch for a submarine.¹

Meanwhile the war signal station at Dover was telephoning to the Vice-Admiral that the firing in the Straits was now continuous. Admiral Keyes made several inquiries of the officer in command at the station, but no green lights had been seen from Dover, and there was so far nothing to suggest that enemy destroyers were in the Straits. It still seemed both to the Admiral and his Staff that the drifters were engaged in a prolonged fight with a submarine.

Whilst Skipper Denson was collecting his division, and the captain of motor launch *No. 12* was extricating himself from what he believed to be gunfire of his friends and colleagues, the Germans were delivering another attack at the other end of the minefield. They appear to have been operating in two detachments against this section of the patrol. Just before one o'clock two French torpedo-boats, patrolling near the Quenocs, had sighted the trawler *James Pond* burning a flare: lit up by the light of the flare, and to the left of the trawler were three strange destroyers steering to the south-westward. In two or three minutes the destroyers had passed out of the zone of light and were lost in the darkness. Some ten minutes later the Germans attacked the *James Pond*, and the two southern drifter divisions under the *Cosmos* and the *Clover Bank*. The *James Pond* came first under the enemy's fire: as the shells struck her they ignited all her flares and in a few seconds she was blazing. The *Clover Bank* was overwhelmed and sunk in a few minutes, and the *Cosmos* and *Silver Queen* fared no better; the evidence given afterwards by the few men who escaped amounted only to broken, disjointed stories, of the sudden outburst of fire, the hurricane of shells, the havoc in their ships, and the small number of survivors who had got off in the boats and rowed away from the blazing wreckage. Some of the skippers in the escaping drifters did, however, send up green Very lights; and it was those lights

¹ As he made off the commanding officer spoke the captain of the flare trawler *Goeland II*. The trawler skipper thought that the destroyers must have been Germans.

that the skipper of the *Shipmates* saw as he steamed away from the first encounter.

The green lights fired from the southern end of the patrol had not been seen from the war signal station; but Commander A. A. Mellin, in the monitor *M 26*, had sighted them, but although he realised that something serious was occurring he sent no report to the Vice-Admiral. The rockets and the firing seemed to come from a direction about south by west, and he at once steamed towards them to investigate the disturbance. Before his ship had steamed a mile from her station, the Germans had delivered two more blows against the drifter divisions. The *Jeannie Murray's* division was first attacked, and suffered severely. The *Jeannie Murray* herself was lost with all hands, the *Violet May* and the *Treasure* were riddled and set alight. In the *Violet May* only four men were left alive after the second salvo; two of them were so badly wounded that they had to be lifted into the boat, yet these two men afterwards returned to their ship, put out the fires, and stood by her till help arrived, nearly six hours later.

Almost simultaneously (about 1.20) the *Tessie's* division was attacked near No. 12 buoy; and the *Begonia's* division near No. 14. Again there was the same outburst of firing and the same immediate havoc among our ships and crews. Commander Mellin, who was only a few miles from the *Begonia's* patrol station, failed to realise what was occurring; indeed, such information as he was able to obtain only served to deceive him. After keeping to his southerly course for nearly three-quarters of an hour he sighted a drifter and ordered her to close. The drifter skipper admitted that he had seen green lights, and had heard gunfire, which appeared to come from the shore. Commander Mellin then heard an outburst of firing to the north and north-north-west, and turned back towards his station near the Varne. He had actually heard the Germans firing the last rounds of the raid against the *Tessie's* division.

Meanwhile, the Vice-Admiral was becoming thoroughly anxious. At ten minutes past one the port war signal station had reported red rockets to the south-south-east; this seemed to confirm his belief that a submarine engagement was in progress, as the signal for a submarine was a red and a white Very light. None the less the continuous heavy gunfire, and the strange silence of all the ships on the patrol, were disturbing and ominous; and at 1.28 he had ordered Commander Mellin to report what was occasioning the gunfire. Ten minutes later he ordered the Downs Division to get under

way and assemble at the South Sand Head, and instructed the captain in charge of the destroyers at Dover to put to sea in the *Moorsom*. The Germans had by then struck their last blow and were steaming homewards.

The gunfire had ceased, and the only report that came in from the Straits was an acknowledgment from Commander Mellin of the last order sent him. He also stated that he was on his way to investigate; and the Vice-Admiral then ordered the Downs Division to return to their anchorage, and cancelled his orders to the Captain "D." A few minutes later he took in a message which strongly suggested that his anxiety had been after all unfounded. The skipper of the *Goeland II*, a flare trawler on the north-western end of the minefield, was reporting to the captain of the patrol that it was a fine clear night with a light east wind. It could hardly have been guessed from this that the stout-hearted but not very active-minded man, who sent in this report, had been seeing and hearing gunfire for the last hour and a half, had spoken the motor launch which had been under fire, and was quite convinced that German destroyers were about.

It was, indeed, truly remarkable that the real facts should have been so long unreported, for many vessels in the Straits were, by now, aware of what had happened. The Straits were actually lit up and beacons by blazing trawlers, and several ships were moving to assist them. Notwithstanding all this the Germans, assisted by a final stroke of good fortune, succeeded in passing the forces which lay along their track at the north-eastern end of the Straits.

At 2.25 a.m. the *Termagant's* division had reached the north-eastern end of their patrol line, and were on the turn. The *Termagant* was leading, and was followed by the *Melpomene*, the *Zubian* and the *Amazon*. Lieutenant Adam Ferguson, the commanding officer of the *Amazon*, was on the bridge of his ship at the time; the gunner was on watch. Lieutenant Ferguson was the first person on deck to sight destroyers on the port quarter of his ship. He at once ordered the signalman to challenge; the signalman did so, three times; no reply was made, and in three minutes the destroyers had disappeared. Lieutenant Ferguson and the officer of the watch had not the slightest doubt that the destroyers were British, and he reported to the *Termagant*, at the head of the line, that three British destroyers had passed under his stern steering east. Commander Bernard of the *Termagant* asked Lieutenant Ferguson why he thought the vessels were friendly, but time and darkness were against him—each signal had to be passed along the line of destroyers before it reached its

recipient, and it would then have been useless to pursue destroyers on a bare suspicion and in a direction that could only be guessed at.

The result was that it was nearly three o'clock before the Vice-Admiral was sure that the enemy had raided the Straits. Even then the reports were baffling and uncertain. At half-past two he had received a message from Commander Mellin in the *M 26*, which was now back at the north-east Varne buoy, that a drifter near buoy No. 30 had sighted a green Very light. This was certainly the signal for a surface raid, but the message continued reassuringly, "all is now quiet." At three o'clock the commanding officer of the destroyer *Syren* reported that he had seen the drifter *Cosmos* abandoned and sinking in flames, near buoy No. 10, about three-quarters of an hour before. It was, by then, far too late to take action; and it was not until dawn came up that the full extent of the damage was realised. Seven drifters and one trawler had been sunk, five other drifters, one trawler and a paddle minesweeper had been severely damaged; eighty-nine officers and men were killed or missing.

When the German destroyers made off in the darkness they had raided the Dover Straits for the last time in the war. Their destroyer attacks upon the Straits are indeed a brilliant episode in German naval operations. Seven times in all the German destroyers burst into the Straits and inflicted loss and damage on our watching forces; on one occasion only had they themselves suffered. But although the enemy's raiding was well conducted it was never more serious than mere raiding. The shortest interval between any two successive attacks was about a month: the longest nearly nine. The German commander in Flanders was never able to shake our hold on the Straits by continuous attacks, with the consequence that the damage done by any one raid had been made good by the time the next raid was started.

The last raid, the most destructive, perhaps also the best executed of them all, laid singular emphasis upon the difficulties of interception. Authentic news that the enemy's destroyers were in the Straits had always been transmitted slowly and hesitatingly for two very natural reasons: commanding officers in the Straits could not be certain that enemy destroyers were about merely because they saw gunfire at no very great distance away; those who were the targets of the enemy's attack generally suffered from it so severely and so rapidly that they had no means of reporting what had happened. As a result, misunderstandings, uncertainties and misleading reports had always accompanied this wild night

fighting. But although the commander at Dover had more than once been puzzled by confusing messages whilst a raid was taking place, he had never been called upon to deal with so difficult a situation as that which confronted Admiral Keyes on the night of February 14. From his headquarters near the harbour he could hear continuous gunfire from seaward; its severity convinced him that something serious was occurring, yet all the enlightenment he received was a series of messages from commanding officers in the Straits, telling him that the gunfire was as audible to them as it was to him and the cause of it just as mysterious. It was natural, therefore, that the court of officers which Admiral Keyes convened to inquire into the disaster should have been much concerned at the most flagrant failures to discover and report what was occurring. The miscarriages to which the court drew attention were not, however, the only explanation of the enemy's success. As far as can be judged by experience, it was inevitable that the drifters and trawlers in the Straits should suffer loss if the Germans managed to pass the barrage patrols without being sighted. The trawlers burning flares were exceptionally vulnerable; and it is most doubtful whether any system of reporting, or any distribution of forces could have prevented the Germans from entering or leaving the Straits if they determined to do so. Admiral Keyes admitted this at the Court of Inquiry, and said that all he could do in the circumstances was to station his available destroyers on the barrage and hope that they would get news of an attack upon the minefield patrol and intercept the enemy upon their return. Experience showed, however, that although this might be the best that could be attempted, the chances of executing it successfully were not good. On five previous occasions, night actions in the Dover Straits had been little but a few outbursts of rapid fire, at close range, at targets which loomed up out of the darkness for a few moments and disappeared into it again. And such experience as we had gained elsewhere seemed to show that nothing more satisfactory than this could ever be expected if the enemy's destroyers were brought to action after dark. More than a year previously the Harwich Force had been attacked, in overwhelming strength, across the track of a German flotilla on its way to Zeebrugge. The outcome was that the enemy was brought to action, that each side suffered damage and that the enemy's flotilla passed through our dispositions and reached harbour. The action fought by the *Broke* and *Swift* on April 20, 1917, was certainly a notable exception, but it stood alone, and it is never safe to draw conclusions from a

single case. If the chances of defeating the enemy decisively by intercepting him during a night raid were slight, the chance of bringing him to action at all was slighter still. It is true that if the green lights which announced that enemy destroyers were about were sent up, seen in other parts of the Straits and reported at once to all ships in harbour and on patrol, then, admittedly, considerable forces would have been on the track of the enemy raiders soon after they began their operations. But if, through unforeseen circumstances, this system broke down, if the vessels attacked had no time to make the signals, or if those who saw the signals did not report them, then the alarm had to be given by the Vice-Admiral on the strength of such information as he had obtained and such inferences as he could draw from them. This was a longer process for it always took at least forty minutes to send a message from the Vice-Admiral to the Straits and to receive a reply. If, therefore, the attack on the drifters had been at once reported by the skipper of the *Shipmates*, the destroyers on the barrage could hardly have received the Vice-Admiral's orders before 1.40—probably they would have received them later—and some time would have elapsed after that before the destroyers could have moved to their intercepting stations. Now the German raid was over, or nearly over, by 1.40, and the German destroyers were crossing the barrage at twenty minutes past two. All that can be said, therefore, is that if the raid had been reported to Dover at the earliest possible moment, the destroyers of the striking force might have had a better chance of bringing the enemy to action near the barrage; and that if they had done so, the action would probably have been an inconclusive affair; a few outbursts of rapid fire in which blind chance determined the incidence of damage.

The raid showed that our system of defence was exceptionally vulnerable; but other facts which became known during the week following also showed that the new system of patrols and minefields was causing the enemy submarine commanders considerable anxiety, and that this anxiety was possibly the real cause of the enemy's desire to shake and damage our watching forces. The efficacy of the Dover Straits defence was generally tested, not *in situ*, but at the opposite end of the British Isles. If submarines were found to be traversing the Fair Island channel in large numbers, it was assumed that the Dover Straits were, for the moment, thought exceptionally dangerous. An unusually large number of U-boats were reported on the north-about route during the week of the raid; and it was hoped that the deep mine-

fields in the Dover Straits were acting as a strong deterrent. This obstacle, however, only mitigated submarine devastations in the Channel. A large number of the U-boats using the north-about route were now operating in the Irish Sea and the Bristol Channel, where the losses were severe; and the convoys brought in by the Buncrana flotillas were particularly menaced by this new concentration. Early in the month, the *Tuscania*, carrying Canadian and American troops, had been torpedoed whilst in convoy, and on February 25 the *Tiberia* was sunk whilst passing through the boom at the entrance to Belfast Lough. It was clear that a barrier across any one passage would only cause the Germans to change their zones of concentration. If the submarine campaign was to be checked by the deep minelaying which was now the principal item in our war plan, then there would be no perceptible check until both ends of the North Sea were blocked. The order to begin work on the Northern barrage was actually given towards the end of the month, and on the following day Admiral Fremantle, the Deputy Chief of the Naval Staff, visited the *Queen Elizabeth* to confer with Admiral Beatty.

Admiral Beatty in particular was anxious that the duties which were dividing the Grand Fleet into separate detachments should not be increased in scope or in number. Soon after the January conference, divisions from the battle fleet or the battle cruiser fleet had begun to act as covering forces for the Scandinavian trade; and large forces from the Grand Fleet had been sent to sea on January 3 to cover a minelaying operation near Terschelling. Nor was this all; four vessels of the 1st Light Cruiser Squadron were now fitted as minelayers; three of them had been engaged on January 3, and the entire squadron, with the exception of the *Caledon*, had been employed more or less regularly on minelaying duties for the rest of the month. As a result the Grand Fleet had been weakened by the withdrawal of an entire squadron; for, if the fleet had been ordered to sea at any time during the previous month, it would have been impossible for the 1st Light Cruiser Squadron to take up its allotted place in the reconnaissance line of the battle cruiser fleet. The discussion between Admiral Fremantle and the Commander-in-Chief naturally moved round the practical implications of the existing policy: it was obvious that some limit must be set to the attrition which these additional duties were causing; was it possible to lay down some clearly defined boundary line? Admiral Fremantle was able to give the Commander-in-Chief a definite promise that the light cruisers would be freed for their ordinary duties; but on all other points he could give him little satisfaction. It

was now intended to form a special minelaying squadron in the Humber;¹ and the three fast destroyers which would be the nucleus of the new force would have to be provided from the Grand Fleet. This, however, would not be the most serious call upon the Grand Fleet's forces. Minelaying upon the northern barrage was about to begin; and Admiral Fremantle informed the Commander-in-Chief that he would have to provide the destroyer escorts for the minelaying expeditions which would be going on continuously until the end of the year. The Commander-in-Chief could only point out that though this new drain upon his forces was inevitable, it might, none the less, create a situation of great danger.

The Admiralty seem to have been anxious to repeat the large anti-submarine operations which had been carried out during the previous year, principally by the Grand Fleet destroyers; but the Commander-in-Chief was very doubtful whether they were sound undertakings. They had given very indifferent results and could only be carried out by forces that were numerically very strong. If added to other attritional processes, the outcome of these operations might well be that the Grand Fleet would be held in harbour for lack of destroyer escort.

Towards the end of the conference the Commander-in-Chief spoke at great length about the existing system of protecting the Scandinavian trade. As the weather improved, the convoys would be sailing at absolutely regular intervals. This would make the date and time of each convoy's departure so easy to calculate that the enemy would surely take advantage of it, and as they probably knew already that battleships and detachments from the Grand Fleet were acting as supporting forces, the Commander-in-Chief might shortly be compelled to detach not a division but an entire squadron of battleships. If the enemy ever decided to undertake a large operation against the Scandinavian convoys and their supports, could the Admiralty be certain that they would get some kind of warning of their preparations?

The question was left unsettled, and a few weeks later the Commander-in-Chief raised it again, when Captain K. G. B. Dewar, Assistant Director of Plans, visited his flagship. With a foresight that was remarkably emphasised by later events, Admiral Beatty again argued that the existing arrangements for protecting the Scandinavian trade were a dangerous strategical experiment. Unless the Admiralty could be absolutely certain that they would get timely warning of an impending raid, we were risking disaster to a division of first-class battle-

¹ *Abdiel, Legion, Ferret, Ariel* and three V-class destroyers.

ships every time a convoy sailed; for however powerful the covering and supporting forces might be, the Germans could always send out a stronger force unless the Grand Fleet itself put to sea whenever a convoy left harbour. The Admiralty had not been able to give sufficient warning of the last two raids against the Scandinavian convoy; would they be better informed in the future? If not, was the risk that we were taking really justifiable? Captain Dewar could only answer that the existing dispositions had been based on the assumption that the defence of the Scandinavian trade was the really important matter; he doubted whether the decision to protect trade with a detachment of battleships and battle cruisers would have been taken if the naval staff had examined the whole question. Again the question was left undecided; for Admiral Beatty was given no undertaking that warning would be given, nor was he authorised to alter the existing arrangements. A few weeks later, both Admiral Fremantle and Captain Dewar had reason to remember the Commander-in-Chief's warning.

For the moment, however, the general feeling, by land and sea, was expectation: the defection of Russia, the disaster to the Italians in the autumn of the previous year had ruled out all thought of a renewed offensive on the Western Front. It was common knowledge that all through the winter the Germans had been moving their armies from east to west as fast as their deteriorated rolling stock permitted.

The British naval authorities were likewise making great exertions to expedite the transport of troops and supplies. Although the American armies were not yet ready, it was felt that the assembling of the American forces on French soil was the most important operation of the moment. The convoy division of the Ministry of Shipping had, for weeks past, been planning an important change in the existing system. There were now, in the Atlantic, some thirty-five ships capable of steaming $12\frac{1}{2}$ knots and upwards, which were assembled regularly at Halifax, for the *HX* convoys. These vessels were large cargo carriers; but they were also transporting large numbers of American troops. During the last five months of the previous year 48,000 American soldiers had been carried to Liverpool in the fast Halifax convoys.

In order to make the utmost use of the fast ships, the Ministry wished to divide them into five squadrons or divisions of about seven ships each, and to base these squadrons upon New York. Slower cargo steamers would be used as substitutes for the services to other ports. The change was, however, an important one; as the fast convoys would henceforward be

run from New York instead of Halifax, and a convoy committee to supervise the turn-round of vessels on the American side would have to be established in New York itself. The advantage was that all fast ships would be sailed from the port where the greatest number of troops were embarked, that the carrying capacity of each ship would be raised, that more men would be transported weekly and monthly to the theatre of the struggle. The plan was approved by all concerned and the necessary steps were taken. On March 9 the Admiralty issued the executive order.

Meanwhile all England was waiting for the impending onslaught. Whether it would be accompanied by any special operations in the North Sea was a matter of doubt; but the flag officers in the southern area felt it necessary to take special precautions against a renewal of the raiding policy which had recently scored such an unpalatable success. Early in March, at all events, Admiral Tyrwhitt issued orders for keeping a special striking force of two light cruisers and five destroyers patrolling near a rendezvous in the centre of the Flanders Bight. Fourteen days later the Germans opened their great offensive and broke the British line near St. Quentin. Their attack was not immediately accompanied by any particular activity at sea. The enemy's submarine commanders made no exceptional effort in support of the army's movement, and adhered to the plan of operating close to the coast, which they had adopted late in the previous year. There was a slight intensification of the inshore attack during the first fortnight of the German offensive; for between March 17 and the end of the month four to five boats were located in the English Channel. The intention of the U-boat commanders was, presumably, to make the transport routes as insecure as possible, for a concentration of boats at the eastern end of the Channel was noticed during the first week of the offensive. In addition to this, one or more boats hovered off Land's End, probably in the hope of attacking the French coal trade near one of its terminal points. A few days later, however, the German naval forces in Flanders carried out an operation which, as far as could be judged, was correlative to the great German offensive on land.

2

*The raid on the Left flank of the Allied Armies, March 20-21*¹

The protection and security of the sea flank of the Allied armies had been a serious naval responsibility from

¹ See Map 16.

an early period of the war. The chief danger against which the Commodore at Dunkirk had to provide was a rapid landing on the low shelving foreshore behind the Allied front at Nieuport; but there was also a danger that the Germans without actually landing would raid the line of communications between Dunkirk and Nieuport by a carefully planned naval bombardment. The railway to Nieuport leaves Dunkirk from the southern side of the town and then turns north-eastward towards the sea. At the railway halt of Rosendael the line is less than a mile from the coast, and it is only about six miles further along, near le Coin, that it begins to recede from it; Adinkerke, the station before Furnes, is two miles from the foreshore at la Panne Bains. It was obviously easy for ships in the narrow channels opposite the coast to range their guns upon this exposed line of railway. The German staff, at all events, considered that the line was vulnerable and that it could be bombarded and damaged before the forces at Dunkirk could drive off the raiders. On March 18 the Commodore of the Flanders Flotilla issued an operation order for an attack against the Dunkirk-Bray Dunes line. The raiding force was to be divided into three groups. The first—composed of six torpedo boats—was to take station at the north-east point of Nieuport Bank, and to bombard the traffic going eastward from Dunkirk; the second, whose composition was not stated in the orders, was to occupy a position on the north-east point of the Smal Bank and to bombard the Bray Dunes sector of the line. The third group, under the direction of the Commodore, was to bombard la Panne and Adinkerke.

In the early morning of March 19, a motor launch on patrol located a group of four enemy destroyers near the light-buoy at the northern end of the Zuidcoote Pass. They were probably carrying out a preliminary reconnaissance to enable the commanding officers to familiarise themselves with the shore lights and sea marks upon which they would have to depend upon the night of the bombardment. The following night, at all events, was selected for the operation, which appears to have been complementary to the great offensive against the Allied armies on the Somme.¹ Torpedo boats *A 4* and *A 9* were sent out after dark to mark the bombarding position at the north-east end of Nieuport Bank; *A 19* and *A 7* were sent to the second bombarding position at the north-east end of the Smal Bank. On the night of March 20, our Commodore at Dunkirk had sent the *Swift*, *Matchless*, *North Star* and *Myngs* to the East Barrage Patrol in the Dover Straits. In Dunkirk

¹ The offensive on the Somme began on March 21.

Roads the *Botha* and the *Morris*, with the French destroyers *Capitaine Mehl*, *Magon* and *Bouclier*, were "at the ready."

The beaches to the eastward and westward of la Panne were considered the places at which the Germans would most probably attempt a landing, and a special force was always stationed in the anchorage opposite to the beaches. On the night of the impending attack the monitors *M 25* and *Terror* and the French destroyer *Oriflamme* were anchored in the Potje, which is the name of the anchorage that lies opposite the beaches. The monitor *General Craufurd* was in Dunkirk roadstead, where there were also a number of motor boats and auxiliaries.¹

At half-past one in the middle watch (March 21), Captain C. W. Bruton of the *Terror* was told by the officer of the watch that three or four small vessels appeared to be hovering about to the northward of Traepegeer No. 1 buoy. Being uncertain whether the Commodore at Dunkirk had stationed a special motor boat patrol in West Deep, Captain Bruton sent a signal to Dunkirk. The Commodore answered that he had not ordered any motor boats to patrol the West Deep, and that he was sending three motor boats to the Potje, which Captain Bruton was to send out towards the Traepegeer to investigate. The next two hours passed quietly; and the motor boats were just approaching the *Terror*, when the officers at Dunkirk sighted and heard heavy firing from seaward (3.45 a.m.). Commander R. L'E. M. Rede of the *Botha* ordered star-shells to be fired to the north-east and north-west, whence the gun-fire appeared to come; but nothing could be seen. Captain Bruton was more successful. He sighted and heard firing a few minutes after it had been heard from Dunkirk and located the direction from which it came. His first star-shells, fired towards the Outer Ratel Bank, lit up three or four large destroyers.

The *Botha* and her division slipped their cables and steamed towards the Zuidcoote Pass, just as the *Terror* opened fire upon the destroyers to the north of her (3.55 a.m.). As far as Captain Bruton could tell, the bombarding ships appeared to be moving to the east. Shortly after he opened fire, the bombardment ceased, and when it began again (4.05), Captain Bruton was informed that the *Botha* and her division were

¹ *Botha* (flotilla leader), 1,742 tons, 31 knots, 6- 4-inch guns; *Morris* (t.b.d.), 1,010 tons, 34 knots, 3- 4-inch guns; *Capitaine Mehl* (t.b.d.), 755 tons, 2-3 9-inch guns; *Bouclier* (t.b.d.), 777 tons, 31 knots, 2-3 9-inch guns; *M 26* (monitor), 540 tons, 1- 6-inch gun; *Terror* (monitor), 8,000 tons, 2- 15-inch guns; *Oriflamme* (t.b.d.), 414 tons, 28 knots, 1- 9-pounder gun, 6- 3-pounder guns; *General Craufurd* (monitor), 5,900 tons, 2- 12-inch guns.

under way, making for the Zuidcoote Pass. By then Commander Rede had just entered the southern end of the Pass and sighted gun flashes to the north-eastward. When the division had reached the Traepegeer buoy, the firing ceased, and Commander Rede could only steer up the West Deep, firing star-shells as he went. At Dunkirk, the Commodore ordered Lieutenant Willett to go towards Ostend with the coastal motor boat No. 20, and attack the Germans as they returned to harbour.

Commander Rede took his division across the north-eastern end of the Smal Bank, and at 4.35 he sighted the enemy. The force he sighted was one of the bombarding divisions of five destroyers, followed by the two small torpedo boats which had been anchored on the Bank as mark boats. These two boats had got hastily under way when they saw from the *Botha's* star shells that a division of British ships was approaching. The British and French ships at once opened fire, which the Germans returned. The German destroyers passed ahead of the *Botha*, but the two torpedo boats could not close up; indeed the leading division does not seem to have made any attempt to extricate them. After ten minutes of firing, the *Botha* was hit in No 2 stokehold and her speed began to fall off. Commander Rede, seeing that the enemy were drawing ahead, turned to port to attack them with torpedoes. Having fired two he closed the enemy's line still further, and rammed *A 19*, which was hurrying after the division of destroyers with *A 7* astern of her. The *Botha* struck the German torpedo boat amidships and cut her in two pieces; but almost as she did so, a smoke screen from the German destroyers ahead covered a large part of the division. Commander Rede could only see *A 7* coming up astern of *A 19*, which he had just rammed, so he again put his helm over. He missed her, and passed ahead, but raked her almost at point-blank range with his after guns. At this moment he was still being followed by most of his division; but the smoke screen was now so thick that they could no longer keep in touch. The *Botha* continued to turn slowly to port; the French destroyers, anxious to engage *A 7* as closely as possible, turned very sharply to port in order to put themselves on a course parallel to the enemy; the *Morris* turned away sharply in the opposite direction. The *Botha's* fighting lights were now no longer burning, as the electric circuit had been severed during the engagement. A few minutes later Captain de Parseval of the *Capitaine Mehl* saw what looked like a large destroyer on an opposite course to starboard of him. He thought it was the *Botha*, but the officer on the torpedo tube could only think that a

destroyer, approaching without fighting lights, was one of the enemy's division. He at once fired a torpedo and it hit the *Botha* in the after boiler-room: she slowed down and then stopped dead. The French destroyers now sank *A 7* with their guns, and later formed a screen astern of the *Botha*, which was taken in tow by the *Morris*. •

The German division, which had passed ahead of the *Botha*, did not return to its base unmolested. Lieutenant Willett, in coastal motor boat No. 20, went up the West Deep at full speed, towards the gunfire to the north-east. Just after five o'clock, as he was approaching the Stroom Bank light-buoy off Ostend, he sighted five destroyers ahead of him, sharply outlined against the dawn, which was just breaking. They turned away as he approached them; but he pressed on to the very short range of 600 yards before he fired a torpedo. Both Lieutenant Willett and those on deck thought that the torpedo hit the fourth destroyer in the line. He turned away after firing and put up a smoke screen; he needed all the protection he could get; for he was in a perfect hurricane of fire, but managed to escape and made fast to No. 6 buoy.

As far as the Admiralty could judge, this short and fruitless raid against the Flanders coast was the only attempt that the enemy forces in the southern area made to second their great offensive on land. In the Irish Sea and the Bristol Channel, however, the U-boat concentration was unrelaxed and it began to cause alarm, seeing that our counter-measures were quite unavailing. It was, moreover, a concentration more likely to disturb the workings of the convoy system than any previously attempted; for although every attempt by the enemy to make a methodical attack upon the convoys in the western approaches had failed, the narrow channel which the escorted ships traversed between the Scottish and Irish coasts was a zone in which convoys were far easier to locate and attack. The losses of the previous month, which were followed by the loss of the *Calgarian*,¹ at all events determined the convoy division to divert the north-about convoys to the southern route, and so evade the enemy's concentration. Six convoys in all were affected; but not all were diverted. The first three (*HS 31*, *HX 25* and *HN 52*) were escorted right through to Liverpool, and the destroyers accompanying them transferred, temporarily, to Admiral Bayly's command. With these reinforcements he was able to provide escort for the additional convoys² which were diverted

¹ Armed Merchant Cruiser, sunk by submarine on March 1.

² *HH 46*, *HX 26* arrived at the rendezvous March 24. *HN 54* arrived at the rendezvous March 26.

to the southern rendezvous and brought in through the western approaches. The additional destroyers were also used to escort outgoing convoys from Liverpool, which were specially formed during the critical period. These changes were carried out with the greatest precision, and as soon as the full-moon period was over the destroyers returned to their ordinary command and the system to its regular working. The diversion was only temporary; but it was a remarkable operation, which illustrated the extent of the control which was now exercised over merchant shipping and the elasticity of the system. By a mere executive order the Admiralty and the Ministry of Shipping were now able to move thousands of tons of shipping from one route to another, and to supervise the execution of their orders in the minutest detail.

At sea, the month during which the Germans opened their offensive in France was, therefore, fairly quiet, and it was during this month that the Admiralty began to lay the immense minefield, at the northern exit of the North Sea, which the Allied Admirals, when they assembled in conference in the autumn of the previous year, had considered to be the operation of war most likely to give decisive results. Its chances of success or failure were well balanced. The average rate of U-boat destruction was between five and six boats a month; the Northern barrage, which was an addition to every other agency of submarine destruction, might, therefore, raise this average monthly figure appreciably. The barrage in the Dover Straits was not strictly comparable to the minefields that were about to be laid in the North Sea; distances, depths, currents, weather and the geographical configuration of the land and sea all differed. But the two systems were comparable in that both were devised in order to subject passing submarines to an identical form of danger: that of navigating through a zone of water fitted with mines that had been set to varying depths. In so far as the nature of the danger would be identical, it might, therefore, be hoped that the degree of risk to passing submarines might be roughly the same in the northern barrage and the Straits of Dover, and consequently that about the same number of U-boats might be destroyed in each zone during the course of a month. Five boats had been lost in the Dover Straits during the first three months of the year 1918, so that, if this rough calculation of chances and probabilities proved correct, between one and two submarines would be lost in the mines of the Northern barrage every month. This would raise the total monthly destruction from about five to six or seven, which would not by any means be decisive.

The Admiralty, however, seem to have hoped for more than

this, though the Commander-in-Chief was extremely sceptical. During the discussions about the patrol forces that should be allotted to the barrage, he stated that the Admiralty seemed to him to be undertaking too much; they were seeking for a complete antidote, and he, for one, did not think they were likely to find it. In his opinion it would be far better to lay smaller minefields in the Kattegat, the Fair Island Channel, and the northern and southern entrances to the Irish Sea.

But the Admiralty were, by now, committed to the scheme and the operation was well in hand. After long preliminary discussions, it had been decided that the minefields should be laid between the Orkneys and the Bergen leads and that it should be patrolled by a special force of sloops, P-boats and trawlers based at Lerwick and Kirkwall, and placed under the orders of a flag officer. The obstruction was to be divided into three sections.¹ The mines in the central section were to be laid by the American navy, and were to be in successive lines which would make the area dangerous from the surface to a depth of 200 feet. This area was to be declared dangerous by a notice to mariners issued by the Hydrographer of the Navy. The mines in the eastern and western sections were to be laid by the British navy, and were to constitute a complex of deep minefields patrolled by surface forces. This immense project could only be undertaken after a considerable amount of preliminary work had been carried out. Mine bases had to be established at Dalmore and Inverness, and special facilities made at Corpach and Loch Alsh for receiving and transporting the material shipped from America. Early in the new year the preparations were so far advanced that a start could be made, and on March 3 the minelayer *Paris* laid the first field in the western section of the barrage.

It was an essential part of the plan that the barrage should be watched by patrol forces sufficiently numerous and powerful to compel submarines to dive into the minefields. Admiral Tupper, who had earned such distinction as the commander of the 10th Cruiser Squadron, was appointed to command the Northern barrage patrol vessels. The vessels of his command had not yet been assembled, and he was for the moment engaged at Whitehall in discussing plans and making arrangements for basing and supplying his forces. As a beginning, however, Captain Bruce, who, in Admiral Tupper's absence, was in charge of the small force which was to be expanded later, stationed his trawlers in the Fair Island Channel to the north of the new minefield.

Minelaying continued throughout the month; but on

¹ See Map 17.

March 22 the sloop *Gaillardia* blew up whilst buoying the new minefield. The disaster caused the gravest misgivings about the mines that were being used. They had been adjusted to a depth of sixty-five feet below the surface; the loss of a vessel which drew only twelve feet, and was at the time a considerable distance from the line of buoys, suggested that the new mine was not satisfactory. All work upon the barrage was stopped until the cause of the disaster could be ascertained by experiment.

After very searching inquiries, the Admiralty decided, on April 20, to go on with the project. Just as the decision was taken the German High Seas Fleet was committed to what was perhaps the boldest operation undertaken by the German Naval Staff since the war began; an operation, in fact, which carried the German battle squadrons right up to the northern entrance of the North Sea, into the very waters that we proposed to mine and patrol.

3

*The Last German Fleet Sortie. April 22—25, 1918*¹

Whenever the Commander-in-Chief had been in conference with representatives from the Admiralty, he had insisted that the giving of protection to the Scandinavian trade by detaching divisions of battleships and battle cruisers involved grave strategical risks, unless the Admiralty could be sure of obtaining early information of an impending move by the High Seas Fleet. He could not believe that the German Staff would remain in ignorance of our dispositions, nor could he believe that they would make no move when they learned that forces detached from the battle fleet were moving across the North Sea unsupported. On both points Admiral Beatty was correct. During the early spring of 1918 the German Intelligence Staff had been busy collecting information upon the effects of the submarine campaign, and of their recent attacks upon the Scandinavian convoy. According to Admiral Scheer they had learned through their agents, and from a careful observation of British wireless signals, that considerable forces had been moved south for escort duty, and that the Grand Fleet crews had been weakened to strengthen the personnel of the anti-submarine forces in the Channel. The German Staff also learned from their U-boat commanders that battleships, cruisers and destroyers were now protecting the Norwegian convoy. The reports of the German U-boat commanders were more accurate than the inferences drawn by the German

¹ See Map 18.

deciphering staff at Neumünster. The 3rd Battle Squadron had, it is true, been put out of commission in March to supply trained crews for the anti-submarine forces; but the 3rd Battle Squadron was not part of the Grand Fleet; its dispersal in no way affected the strength of the Grand Fleet crews. Secondly, no forces from the Grand Fleet were absorbed in anti-submarine warfare. None the less, this information, though inaccurate in detail, contained a substance of truth: the drain on our destroyer forces, which had been continuous since the war began, was as great as ever. If a sudden alarm were given, the Commander-in-Chief might find that he had no more than forty boats available for immediate operations; if the alarm were made at a more favourable moment when the call for destroyers was not so severe, from seventy to eighty boats out of his total complement of one hundred and twenty, might be ready for immediate service. In a general sense, therefore, the German intelligence was correct; in one important respect the Grand Fleet was always below strength, and the Commander-in-Chief was always hampered as a consequence. What the U-boat commanders had reported was strictly accurate: battleship and cruiser forces were actually supporting the Scandinavian convoy. But the supplementary information upon the time at which convoys left and arrived was not so correct. "According to these sources of information," writes Admiral Scheer, "the convoy movement appeared to take place chiefly at the beginning or in the middle of a week." This was incorrect and very misleading, for the Scandinavian convoy was run at perfectly regular intervals, and if the date of one sailing or arrival could be obtained, the dates of all subsequent ones should have been calculable. In one important respect, therefore, Admiral Beatty had over-estimated the enemy's ability to collect accurate and detailed information, for he had always assumed that the Germans would discover the exact dates and times when our convoys were sailing. It was indeed reasonable to assume it; for this was the least difficult part of the enemy's preparations.

The exaggerations in the German intelligence reports seem to have influenced the plan of operations to which Admiral Scheer committed the High Seas Fleet in April 1918; but it is only fair to add that if his information had been rigidly accurate, his project would still have been sound and feasible. He was indeed preparing to act exactly as Admiral Beatty had feared, and was about to execute a plan which the Commander-in-Chief had always considered possible for the enemy and highly dangerous to ourselves. Admiral Scheer's project bore the impress of his previous plans—it was designed for iso-

lating and overwhelming some part of the British battle fleet. The convoy had twice been successfully attacked in the eastern section of its route: would it not, therefore, be possible to move the High Seas Fleet into this zone—which the British found so difficult to protect—and there overwhelm the convoy and its powerful supporting forces? Admiral Scheer does not say whether he was aware of a very important change that had recently been made in our dispositions for covering the North Sea. On April 12 the Grand Fleet had been moved to Rosyth; and only the 2nd Cruiser Squadron and some destroyers had been left at Scapa. This move south to a new base at least affected Admiral Scheer's plans indirectly. The zone in which he desired to operate was, it is true, rather further from Rosyth than from Scapa; but it was well to the north of the new base, and eighteen hours' steaming, or even less, would always carry the bulk of our battle fleet to an intercepting position between Stavanger and the Horn Reefs channel. This, if he knew it, must have weighed heavily with Admiral Scheer; but he probably relied upon his wireless intelligence to give him timely warning.

The success of the German plan was, of course, contingent upon the secrecy with which it could be covered, and the problem of secrecy was not easy of solution. The High Seas Fleet had never been able to put to sea without giving some indications of movement; but recently these indications had been very much reduced. Small detachments had entered the North Sea almost undetected, and had so disguised their movements and intentions that all our dispositions for countering and intercepting them had been based on inference and guess-work. If, therefore, the methods for preserving secrecy which had worked so well during recent operations could be made sufficiently embracing to cover a sortie of the High Seas Fleet, there was no reason why Admiral Scheer's plan should not end in a resounding success. For to take the High Seas Fleet to the coast of Norway to sink another convoy and its escorting cruisers under the eyes of the neutral skippers; to overwhelm a battle squadron almost within sight of the Norwegian coastguard stations and lighthouse keepers, and to do all this whilst the British armies in Flanders were reeling under the German onslaught, would be a success of the first order.

Admiral Scheer knew well that secrecy depended upon the suppression of wireless signals during the preliminary period of the operation. But as wireless signals cannot be dispensed with when large forces put to sea, and concentrate in the free patches and cleared channels of a mine-strewn area, he had to

devise some method of concentrating the fleet, and at the same time of disguising the purposes of the concentration. His stratagem was well conceived; "all available ships were assembled in the Heligoland Bight on the evening of the 22nd under the pretext of carrying out battle practices and evolutions. The commanders of divisions and squadrons were then given their orders and informed of our intentions for the first time. . . ."¹ The greatest possible restriction of wireless signalling during the operation—which was to be spread across the Skagerrak to the Norwegian coast—was imposed upon all squadron commanders. The day fixed for the attack was April 24, and the first part of Admiral Scheer's concentration was carried out without a hitch.

It so happened that Admiral Scheer's first concentration in the Bight was taking place whilst Admiral Keyes was delivering his attack upon Zeebrugge. Admiral Tyrwhitt was patrolling with his force in a covering position between the Brown Ridge and the Texel; and the Admiralty were watching with exceptional anxiety for any signs of movement by the High Seas Fleet. The Commander-in-Chief was always given information about any movement that had been detected; but as absolutely no reports of the High Seas Fleet sortie were received during the day, the Commander-in-Chief was informed that the Bight seemed quiet. In the north the convoy movements continued regularly. At a quarter-past one in the afternoon of the 22nd, the home-bound convoy of thirty-four ships left Selbjorns Fiord under the escort of the *Duke of Cornwall*, the *Lark* and the *Llewellyn*. They were covered by the 2nd Battle Cruiser Squadron and the 7th Light Cruiser Squadron, which met them outside and steamed across the North Sea to the south of them. When daylight came up on the 23rd the convoy was about one hundred and forty miles to the east of the Orkneys, and Admiral Scheer, with his movement still undetected, was beginning to move his squadrons northwards through the swept channels in the Bight. Almost as soon as they were under way, a dense fog came down and covered the entire North Sea. In the north, the convoy and the covering forces ran into it soon after eight: in the south, Admiral Scheer went cautiously onwards until he reached the inner edge of the British minefields, when he anchored. His preparations for disguising the movement were so well thought out, and emergencies had been so carefully provided against, that this set-back did not prejudice the secrecy of the plan. Indeed his original plan of concentrating the fleet for simulated exercises worked admirably. During the day, our

- ¹ Scheer, p. 320, Eng. Ed.

directional wireless stations detected no unusual movements in the Bight. At half-past eight in the evening, therefore, the Commander-in-Chief was again informed that the Bight was quiet. Just as the Admiralty sent away the telegram, Admiral Scheer's squadrons were sighted and located for the first time.

After the German fleet had been at anchor for half an hour, the fog cleared slightly, and Admiral Scheer again got under way. But the weather was still very thick and the passage through the minefield was slow; it was only towards evening that the fleet cleared the outer limits and that the minesweepers and barrier breakers were ordered back. The German fleet was now entering the zones watched by our submarines. Four British submarines were patrolling the approaches to the Bight at the time. They were stationed along a rough quadrant between the Texel and Lyngvig. At the western extreme of the quadrant—near the Texel—was *V 4* (Harwich); further north, on the south-eastern side of the Dogger Bank, was *E 42* (Harwich); on the north-eastern side of the line was *J 4* (Blyth); on the northern, towards Horn Reefs, was *J 6* (Blyth).¹ As Admiral Scheer's squadrons debouched into the Bight they crossed the area that was being watched by *J 6*; and Lieutenant-Commander G. Warburton, the commanding officer, soon sighted them. His submarine had been in the fog all the morning, but in the afternoon it had cleared away, and at eight o'clock in the evening he sighted a group of destroyers and light cruisers. The weather was thick and hazy, and he thought they were British ships, supporting or covering one of the minelaying operations that were incessantly going on at the exit from the Bight. He had been warned, in his sailing orders, that British cruisers might be operating inside the zone that he was watching. Half an hour later he saw five battle cruisers and destroyers steering to the north-north-east; and at a quarter-past twelve he saw heavy ships, which must have been the first echelon of Admiral Scheer's advancing battle squadrons. This procession of vessels, on a northerly course, at the very entrance to the Bight did not rouse his suspicions. He remained convinced that they were British vessels, engaged upon some operation, and sent in no report of any kind to the Commander-in-Chief.

Admiral Scheer thus slipped out into the North Sea unreported; but the quarry that he was hunting was fast slipping away from him. By dark on the 23rd, the convoy and its covering force had reached the latitude of Buchan Ness. They had struggled through the fog all day, and towards nightfall it

¹ *E 45* was approaching Heligoland on a minelaying expedition.

had settled down, thicker than ever. None the less the escort reached the western rendezvous at about the scheduled time, and there was no reason to doubt that the convoy would be brought into Methil on the following morning. No other convoy was due to leave until the 24th, so that Admiral Scheer and his battle squadrons were steaming into a no-man's sea, abandoned alike by merchantmen and men-of-war.

In the early hours of the 24th the Admiralty at last began to suspect that something unusual was afoot, and in order to make early provision against a raid on the south-east coast, the Harwich Force was ordered to raise steam.¹ The homeward-bound convoy was then approaching the Firth of Forth; and the outward-bound ships were preparing to sail under the escort of the *Ursula* and the *Landrail*. The Admiralty did not consider that the vague reports in their hands would justify them in suspending the convoy service. The commanding officers continued to make their preparations, though the fog was still very thick, and the convoy got under way at half-past six. As they steamed out of harbour, however, the Admiralty warned the Commander-in-Chief that the enemy was taking special precautions in the Bight, and that some operation was about to be undertaken.

But this large operation, as it proved to be, was then far advanced towards failure. Early in the morning a serious accident occurred in the *Moltke's* engine-rooms: she was steaming ahead of the fleet with Hipper's reconnaissance groups, and was at the time about forty miles west-south-west of Stavanger. Admiral von Hipper was most unwilling to abandon the operation; so he ordered the *Moltke* to retire on Admiral Scheer. Later, hearing that the *Moltke* had come to a complete standstill, he turned back with his whole force. This, however, was not the most serious consequence of the accident: the damage to the *Moltke*, and the change of plan, had to be reported to Admiral Scheer, and this broke the wireless silence that the Germans had maintained so long and so successfully. Our directional stations at once picked up the signals that were being exchanged between Admiral von Hipper and the Commander-in-Chief. As a consequence the Admiralty became aware that a detachment of enemy ships was off the south-western coast of Norway, and that a large operation was in progress. The reports from our directional stations continued to come in freely, and at a quarter to eleven the Grand Fleet was ordered to put to sea

¹ The Harwich Force had returned to harbour from their covering patrol during the operation at Zeebrugge between 3.0 and 4.0 p.m. on the 23rd.

and concentrate east of the Long Forties.¹ Just before the order went out the homeward convoy and its covering forces came into Methil; the Commander-in-Chief was thus free to act against any enemy forces that might be reported, and to leave the convoy out of consideration in making his dispositions.

Meanwhile Admiral Scheer had got into touch with Hipper and the *Moltke*. He ordered the battleship *Oldenburg* to take the damaged ship in tow, and turned back for the Heligoland Bight just as Admiral Beatty received his orders to put to sea. Admiral Scheer was, however, unwilling that the operation against the convoy should be abandoned altogether; and so ordered Admiral von Hipper to press on northwards to intercept it. But when Admiral von Hipper turned his cruisers towards Slotterö, the convoy and its covering forces were already safe in Methil.

In the meantime provision had to be made for supporting the 2nd Cruiser Squadron, which was isolated from the rest of the fleet, and was in the Orkneys, and for the battleship *Agincourt*, which was still at Scapa. At a quarter past twelve, therefore, the Commander-in-Chief warned the Admiral Commanding the Orkneys and Shetlands that enemy forces were at sea, and that they might be contemplating an attack upon the islands. He also told him that the *St. Vincent* and the *Hercules*—then at Invergordon—had been ordered north to strengthen the 2nd Cruiser Squadron.

Both the Admiralty and the Commander-in-Chief had now to consider whether the independent movements of detached forces should be continued or not. There were two of these movements to be considered: the outward-bound convoy from Methil, and a minelaying expedition from the Humber. The outward-bound convoy was now past the Firth of Tay. The 2nd Battle Cruiser Squadron was under orders to act as a covering force; and it was an open question whether the convoy and its protecting forces should be recalled or not. The Admiralty told the Commander-in-Chief to hold back the convoy if he wished to keep the 2nd Battle Cruiser Squadron under his orders; but Admiral Beatty decided to allow both the convoy and its covering forces to carry on. He also ordered the 2nd Cruiser Squadron and the two battleships *Hercules* and *Agincourt* to leave Scapa and strengthen the covering force.²

¹ The Commander-in-Chief had put the fleet at 2½ hours for steam in the early morning.

² The *St. Vincent* was under repairs and could not leave Invergordon, as ordered earlier in the day.

In the early afternoon the Grand Fleet put to sea from Rosyth;¹ and by midnight effect had been given to the dispositions ordered during the day. The Fleet flagship was then ninety miles east of May Island; the 2nd Battle Cruiser Squadron, which had been held back by the fog, was getting under way; the 2nd Cruiser Squadron and the *Agincourt* were shortening in at Scapa, and the *Hercules* was steaming northwards to join them. The convoy had just reached the latitude of Buchan Ness.

Also *E 42* was ordered to steam at full speed to one of the principal channels into the Bight. The exact point that *E 42* was to occupy was about forty miles from the north entrance to the channel, and a few miles north of an important junction point in the complex of swept passages through the Bight.

By that time our squadrons were moving out against a combination which had failed. When Admiral von Hipper reached the convoy route he found nothing. As he did not know of the convoy which sailed from Methil, he turned back when he reached his intercepting position. Admiral Scheer's battle squadrons had moved south all day, and by nightfall were past the Grand Fleet's line of advance.

Submarine *J 6*, under Lieutenant-Commander Warburton, was still on her station near Horn Reefs, and at four o'clock in the morning, whilst the minelayers and the Harwich Force were running out of the Bight, he sighted a group of light cruisers and destroyers to the northward, steering south: he dived, and an hour and a half later he saw a larger force which

¹ The force that sailed was: 31 battleships, 4 battle cruisers, 2 cruisers, 24 light cruisers, 85 destroyers.

Queen Elizabeth: Flagship, Grand Fleet

| | | |
|-----------------------------|-------------------------------------|----------------------------|
| 1st Battle Squadron | = 9 ships | |
| 2nd " " | = 8 " | |
| 4th " " | = 5 " | |
| 5th " " | = 4 " | |
| 6th " " | = 4 " | (U.S.A.) R.-Ad. H. Rodman. |
| 1st Battle Cruiser Squadron | = 4 battle cruisers | |
| 1st Cruiser Squadron | = 2 cruisers. | |
| 1st Light Cruiser Squadron | = 5 light cruisers | |
| 2nd " " | = 4 " " | |
| 3rd " " | = 4 " " | |
| 4th " " | = 6 " " | |
| Attached to Fleet | = 5 " " | |
| 11th Destroyer Flotilla | = 20 destroyers (including leaders) | |
| 12th " " | = 17 " | |
| 13th " " | = 21 " | |
| 14th " " | = 14 " | |
| 15th " " | = 13 " | |

he took for battle cruisers, followed by light cruisers. He watched these ships pass southwards until a quarter-past seven, when he lost sight of them, and reported by wireless to the Commander-in-Chief. He had evidently seen the first echelon of the German fleet approaching the swept channel.

Meanwhile *E 42*, under Lieutenant C. H. Allen, was pressing on towards her intercepting position in the German swept channel. She reached it just before noon, and, as the German fleet made very slow progress through the minefield, she was ahead of it. All that day Admiral Scheer—with all his squadrons now united—worked down the swept channels, and some time after five o'clock the *Moltke* was allowed to go in under her own steam. The fleet was then abreast of the Lister Deep. At about the time that the *Moltke* was cast off, Lieutenant Allen sighted "three small tufts of smoke" about six miles to the north-east. He made off at full speed to the south-east to get ahead of them, and at about half-past five he was in position. He fired four times at the procession of ships that was filing past him, and heard a distant explosion after the last torpedo had run its course. He had hit the damaged *Moltke*; but he did not know it until long after. A few minutes later, however, he had good reason to know that the enemy had located him. His ship was the focusing point of a succession of underwater explosions; he counted twenty-five in all, and was not clear of his pursuers for a whole hour. By this time (1.41 p.m.) the Admiralty had learned that the High Seas Fleet was returning to harbour, and had told the Commander-in-Chief to return to his base when he thought fit.

This was the last sortie carried out by the German fleet during the war. It had been planned and executed with great skill; from first to last we were completely baffled, and if Admiral Scheer's intelligence had been more accurate, he would have had an excellent chance of doing enormous damage. Supposing that he had taken his fleet north twenty-four hours sooner or twenty-four hours later, with the same secrecy, he would then have fallen in with the convoy that left Slotterö on the 22nd, or the convoy which left Methil on the 24th; and our first warning of his presence off the Norwegian coast would have been news that a convoy had been destroyed and its covering forces overwhelmed. Admiral Scheer failed because, in spite of all his careful preparation, he had not prepared enough. He did not know when the convoys sailed and arrived, and was content to compute the dates by rough guess-work. Yet he must have had

means of collecting the data for a more accurate calculation. Between January 20, when the new system of convoys was started, and April 22, when Admiral Scheer took the High Seas Fleet out of harbour, twenty-five convoys had arrived in Norway, and twenty-six had left Norway for Methil. There had been delays and irregularities in the sailings during the earlier part of the year; but the outward sailings for March and April had been very steady, and a German consul's clerk could easily have informed the German naval authorities that the scheduled interval between two British convoys was four days.¹ Even though they might have been uncertain of the exact date upon which the next convoy was due, the German consular agents could easily have ascertained that Admiral Scheer's information about convoy arrangements was quite wrong. For they must surely have known that the dates of departure were separated by intervals made as regular as the weather would allow, and that the actual days of the week had nothing to do with the dates of sailings or arrivals. It is curious, and possibly explanatory of his failure, that Admiral Scheer does not mention the German consuls in Norway amongst his sources of information. Indeed, as he states particularly, it was from the U-boat captains that he learned about the convoy movements and the composition of its covering forces. If the U-boat commanders were his only sources of information, it is truly extraordinary that he or his staff should not have amplified their reports by inquiries from civilian officials. His submarine commanders were competent to ascertain the routes that the convoys followed, their numbers, steaming formations, and the character of the forces defending the merchantmen; but they could not conceivably be relied upon to locate every convoy that sailed—many indeed must have passed the watching U-boats by night—and they were, in consequence, quite incapable of drawing up a calendar of convoy movements. It is, of course, mere guess-work to explain Admiral Scheer's failure by assuming that he and his staff relied solely upon U-boat reports

¹ A. Convoys sailed from Methil:

January 20, 24, 27, 30.

February 2, 6, 9, 14, 18, 22, 25.

March 1, 4, 8, 12, 16, 20, 24, 28, 31.

April 4, 8, 12, 16, 20.

B. Convoys sailed from Norway:

January 19, 22, 26, 29.

February 1, 3, 8, 11, 19, 21, 24, 27.

March 3, 6, 11, 14, 18, 22, 26, 30.

April 2, 6, 10, 14, 19, 22.

for their knowledge of our convoy movements. On the other hand, it is difficult to find any other explanation for his failure to obtain accurate information on a matter which was essential to his success, and upon which accurate information was easy to obtain, if the request to supply it had been addressed to the proper quarter.

CHAPTER VII

THE BLOCKING OF ZEEBRUGGE, APRIL 22-23, 1918

WHILST the High Seas Fleet was searching for the Scandinavian convoy, and whilst the Grand Fleet was sweeping the North Sea in search of the High Seas Fleet, a specially constituted naval force hurled itself at the defences of the Belgian coast in a desperate endeavour to block the submarine bases at Ostend and Zeebrugge.

This attack on the Belgian bases was the last survivor of a distinguished family of adventurous projects. The plans which had already been considered must be briefly reviewed, if the genesis and execution of the final project are to be understood. Late in 1916, Admiral Bayly at Queenstown had advocated a combined operation against Borkum, Ostend and Zeebrugge; but neither the Admiralty nor the General Staff considered that the plan was feasible. Even though troops could have been landed and could have entrenched themselves, the difficulty of supplying them would have been enormous. A flow of traffic would have had to be maintained across a submarine-infested area to an open anchorage on the enemy's coast; the bulky, heavy material necessary to an army in the field would have had to be landed across an open beach or along a few extemporised pontoons and piers; and this mass of transports and their covering forces would have collected off the enemy's coast, within striking distance of their fleet bases. Military objections were equally strong; it was now an axiom of military strategy that troops should only be landed on a coast if they can advance from their landing-place in sufficient force to engage the enemy's armies. To maintain isolated bodies of troops at two or more selected points on a hostile coastline was almost impossible, and if possible not worth while; in a few days they would be besieged from the land, perhaps from the sea as well.

Subsequently a large number of plans were submitted: Heligoland, Sylt, Schellig roads, and Borkum were all recommended as points of attack, but the objections to Admiral Bayly's plan were applicable to those that succeeded it.

Towards the end of 1915, Admiral Bacon and the High

Naval authorities discussed together a detailed plan for attacking the lock gates at Zeebrugge under cover of a smoke screen. The Admiralty's objections were strong, and although Admiral Bacon had been sufficiently interested in the project to bring it to the notice of the authorities in Whitehall, he agreed with them that the risks were too great.

A year later Commodore Tyrwhitt urged the Admiralty to sanction a blocking attack upon Zeebrugge. When he found that this project was not favourably received he submitted another, more comprehensive one, for capturing the mole and the town beyond, which, he suggested, should then be made a starting-point for a military expedition against Antwerp.

Admiral Bacon was asked to give his opinion on this plan; and he stated that it seemed to him to have all the weaknesses of the project which he had discussed at the Admiralty eighteen months before. He did not believe that the parties landed on the mole and elsewhere could penetrate as far as the locks, far less carry the town. The objection to a military expedition against Antwerp was that, as far as he knew, the military authorities would neither approve of it nor undertake it. The Admiralty appear to have endorsed Admiral Bacon's opinion.

When Admiral Keyes became Director of the Plans Division, the First Sea Lord handed him a dossier containing a large number of projects for coastal and blocking expeditions, and ordered him to report. On December 3, two months after he had taken up his appointment, he submitted a new plan to the Board. In this project Zeebrugge and Ostend were to be blocked simultaneously by old cruisers under cover of darkness, between March 14 and 17; if the operation was to be carried out at morning twilight, March 18 and 19 were the most suitable dates; but the method and time of attack must be settled by the officer commanding. In order to meet the kind of criticism which had been levelled at so many previous plans, Admiral Keyes reminded the Board that the operation he recommended was not more risky to the men engaged than any massed attack on the Western Front.

This plan was submitted to Admiral Bacon, who visited the Admiralty on December 18 with an alternative project. Admiral Bacon's plan differed materially from the one just prepared, in that an assault on the mole, similar to that proposed by Commodore Tyrwhitt, was added to the blocking operation. The monitor, *Sir John Moore*, was to go up to the mole bows on, and land about 1,000 storming troops across an enormous brow twelve feet wide and forty-eight

feet long. As the troops were put on the mole, the monitor *General Craufurd* was to go alongside the mole and bombard the lock gates and the forts. The twelve-inch shells used in this bombardment were to be fired by specially reduced charges, suitable for the short range. The block-ships were to be run into the harbour under cover of the monitor attack. After some discussion of the plans before them the Admiralty decided that an attack should be made upon Zeebrugge and that Admiral Bacon should be in charge of it. As soon as approval was given, Admiral Keyes visited the Grand Fleet to raise the necessary officers, seamen and stokers. Admiral Beatty at once promised that the officers and men required should be provided. Later on those who were approached were merely asked whether they were ready to perform a hazardous service. There were no refusals.

The names of the ships which subsequently became so famous first appear in the records of this great operation in a minute prepared by Admiral Keyes after his return from the Grand Fleet. In this paper he informed the Board that six blocking cruisers would be required, and urged that they should be selected from the *Sirius*, *Thetis*, *Brilliant*, *Vindictive*, *Intrepid*, *Hermione*, *Sappho* and *Iphigenia* (December 27).

A few days after Admiral Keyes returned to London, he was ordered to succeed Admiral Bacon at Dover. He arrived at his new command on New Year's Day, but before he left London the new Board confirmed the decision that an attack should be delivered against the Belgian bases, and left Admiral Keyes free to plan and execute it as he thought best. After long consideration, Admiral Keyes decided that he must modify his predecessor's plan considerably. Knowing, as he did, that the lock gates were run back into great concrete shelters on the first sign of danger, Admiral Keyes did not consider that their bombardment would serve any useful purpose. Nor could he believe that a monitor with her speed reduced to four knots by false bows and a paraphernalia of special fittings, could ever be brought bows on to the mole, and kept there in a three-knot current. To land the storming troops across one large brow which might be put out of action by a single shell was to place the success or failure of the whole expedition at the mercy of one lucky shot from the enemy's batteries. Admiral Keyes did, however, endorse one point in his predecessor's project, in that he decided to assist the block-ship attack by a diversionary assault upon the mole, which had not been part of his first proposal. His main object was to capture the guns at the end of the mole which menaced the blockships' approach towards the canal.

To assist the attack, preparations were subsequently made for causing as much damage as possible to the material on the mole and destroying the viaduct which connected it to the shore. He at once took steps to obtain a marine battalion which was to assist the bluejackets to carry the mole. This special marine force was formed on January 8, 1918.

Admiral Keyes's preparations were of three kinds: (i) selecting and fitting out the storm-ships and block-ships, (ii) collecting and training the officers and men, and (iii) devising every detail of the final plan. He had at first intended to use a fast handy merchantman with a high free-board as a storm-ship, but after long consideration he selected the old armoured cruiser *Vindictive*. She was fitted with an 11-inch howitzer on the quarter-deck and two 7.5-inch howitzers for engaging the shore batteries at the shore end of the mole and firing on the locks and seaplane base, and two large fixed flammenwerfers; in the foretop there were two pom-poms and six Lewis guns for firing over the parapet of the mole to facilitate the assault. In addition, the *Vindictive* retained two 6-inch guns on each side of the upper deck; three pom-poms, ten Lewis guns, and four batteries, each of four Stokes mortars, were placed on the port side. Her mainmast was removed; a large portion of it was, however, mounted horizontally across the quarter-deck, so that the part which extended for several feet beyond the port side should act as a bumpkin and protect the propeller. Special fenders were fitted along the port side to prevent damage whilst the ship was against the mole, and an enormous fender was fitted to the port side of the forecastle to take the first bump when going alongside.

A false flush deck was built on the skid beams, from the forecastle to the quarter-deck on the port side, and three wide ramps were built leading from the upper deck to the starboard side of the false deck, to facilitate the rapid movement of the storming force when landing. Fourteen narrow brows were fitted, hinging on the false deck, to bridge the gap between it and the parapet of the mole. These were to be lowered on to the mole by rope tackles.

Only the first wave of the assaulting force could be carried in the cruiser, and two Mersey ferryboats were selected to carry the remainder. These ships—called the *Iris* and the *Daffodil*—were double-hulled, double-bottomed boats, and were thus practically unsinkable. They were, moreover, very easy to steer and could each carry 1,500 men; they drew very little water, and could, if necessary, steam over minefields with comparatively small risk. On the other hand,

they could not go far under their own power, and would, in consequence, have to be towed across the Flanders Bight to Zeebrugge. Also their decks were low, so that scaling ladders had to be fitted to them in order to enable the troops to reach the parapet of the mole which was nearly thirty feet above high water. All three storming ships were provided with large grappling irons, which were suspended from derricks, so that they could be lowered over the parapet and the wires then hauled taut for securing the vessels alongside.

Five unarmoured cruisers were selected as block-ships, the *Thetis*, *Intrepid* and *Iphigenia* for Zeebrugge and the *Sirius* and *Brilliant* for Ostend. Enough guns were left in the ships to enable the guns' crews to engage the shore batteries during the approach, but torpedoes were removed. They were each fitted with an additional steering and conning position; their masts were taken out to make them less conspicuous, and cement blocks and bags of dry cement were placed in the position considered best to prevent the cutting away and removal of the block-ships when sunk. Charges were fitted for blowing out portions of the ships' bottoms for sinking them, and firing keys for blowing the charges were fitted both forward and aft.

For the destruction of the viaduct which connected the mole to the shore, two submarines, *C 1* and *C 3*, were selected, and several tons of explosive, with a suitable detonating mechanism, were stowed in their fore compartments.

Admiral Keyes had always realised that the success of the expedition would depend in large measure upon the density of the smoke screen which was to be laid across the enemy's batteries and observation posts; and he found on his arrival at Dover that the existing appliances, though simple, had grave defects. The method in use was that of putting phosphorus into an iron pot and igniting it. This certainly made dense smoke, but the flames from the blazing phosphorus were simply beacon marks at night. Admiral Keyes decided to abandon the use of phosphorus and asked Wing-Commander F. A. Brock to find a substitute. The new smoke screens were produced from a chemical known as chlor-sulphonic acid. This substance gives out dense smoke when certain gases are applied to it; the exhaust fumes of an internal combustion engine or of a destroyer are equally effective.

It is perhaps only when concrete examples are given that an ordinary reader can appreciate the degree to which forces in the field absorb the production of an industrial state. Admiral Keyes required eighty-two tons of chlor-sulphonic acid; only one firm in England manufactured the substance,

and the managers of the firm stated that this quantity could only be produced if the manufacture of saxin were temporarily stopped. Saxin, as everybody knows, is a synthetic substitute for sugar, and is much used by diabetic patients. The War Cabinet eventually gave orders that the production of saxin should be suspended, and it was only when this was done and when every tea-drinker in England who used a sugar substitute had been compelled to drink unsweetened tea, that Admiral Keyes could be confident that enough smoke-producing substance would be delivered.

The actual operation can only be explained by first describing the defences which these ships were to penetrate. The Germans had mounted fifty-six heavy, medium and anti-aircraft batteries along the Belgian coast.¹ The armament of the Ostend and Zeebrugge sub-sections was, however, the principal concern of the attacking forces; for it was the guns of these sub-sections which would cover their approach routes and points of attack.²

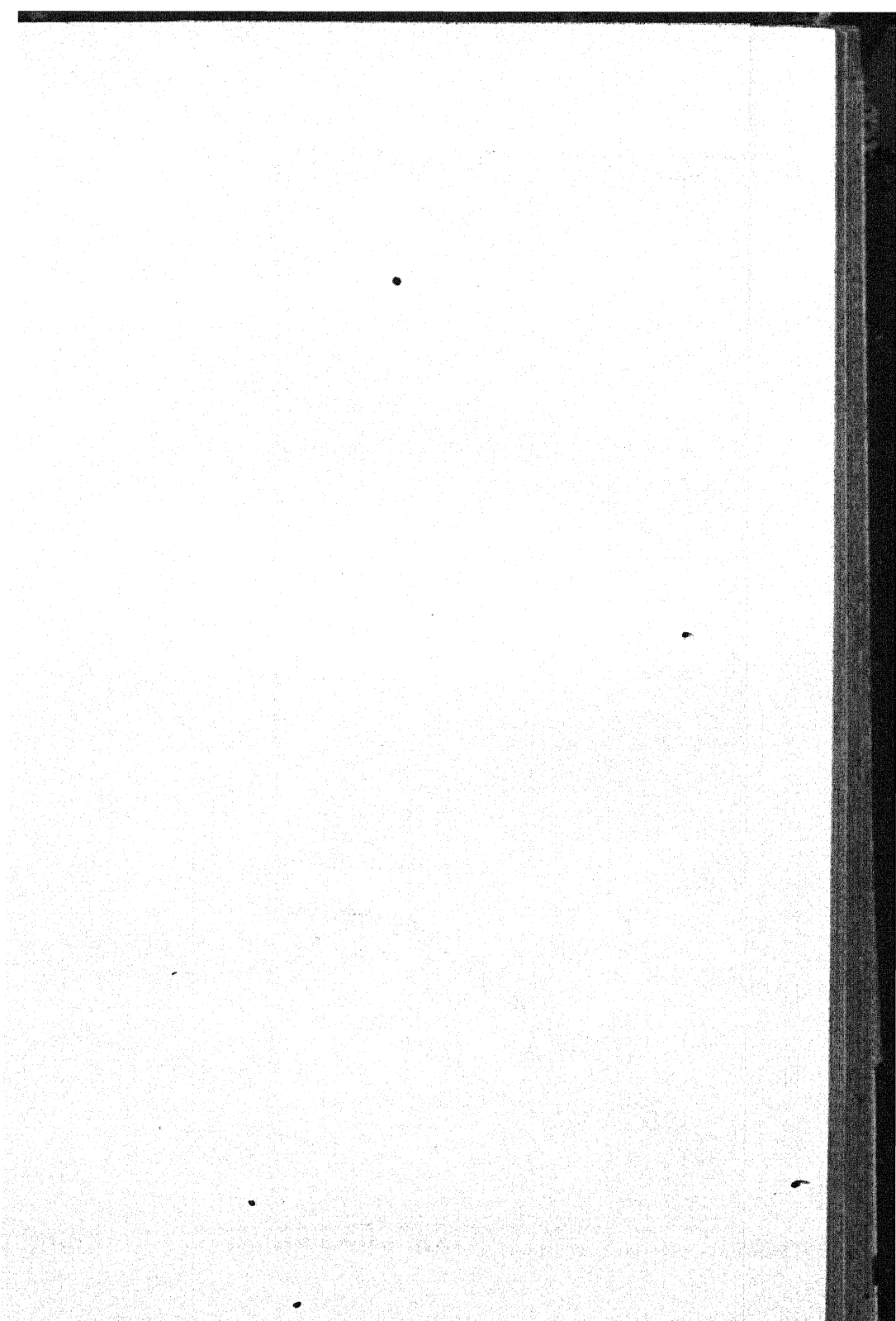
At the western end of the Ostend sub-section were the Aachen (four 5·9-inch), Antwerpen (four 4·1-inch), the Beseler (four 5·9-inch) and the Cecilie (four 5·9-inch), all emplaced along the sea front; a mile back from the coast at Mariakerke Bains was the heavy Tirpitz battery (four 11-inch). On the eastern side of the harbour and canal were the Friedrich (four 3·5-inch and one star-shell howitzer) and the heavy Hindenburg (four 11-inch) batteries. The Irene (three 5·9-inch and one 4·1-inch) was at the eastern end of the Ostend sub-section. Just inside the limits of the next sub-section—(Breedene)—was the Preussen (four 11-inch) battery, which, though it was controlled from another command, could support the barrage fire on the Ostend approach. About half a mile back from the coast was the Jacobynessen (four 15-inch) battery, which also could be trained on to the approach route to Ostend.³

The Zeebrugge sub-section was even stronger. At its western end were the coastal batteries Cäsar (anti-aircraft), Kaiserin (four 5·9-inch) and the Groden (four 11-inch); well back from the coast near Donkerklok Farm was the Hessen (four 11-inch); to the west of the Zeebrugge mole was the Württemberg (four 4·1-inch and an anti-aircraft battery). East of the canal was the Friedrichsort (four 6·7-inch) and

¹ About 225 guns, of which 136 were from 6-inch to 15-inch calibre.

² See Map 19.

³ The correct name of this battery was the Deutschland. It was, however, uniformly referred to as the Jacobynessen in all operation orders and reports of proceedings. It will be referred to by this incorrect, but, to British officers familiar name in this chapter.



the Kanal (four 3·5-inch); near Heyst were the Freya (four 8·2-inch) and the Augusta (three 5·9-inch). All these batteries were connected to an elaborate complex of watching, command and signalling stations; and it was this powerful system that our forces had to penetrate.

The Zeebrugge mole deserves special description. It was a seaward outpost of the tremendous coastal system that has just been described. The mole itself is in three parts; a railway viaduct, on iron framework girders, runs from the shore to the solid masonry of the mole; it is about 580 yards long and is just wide enough to carry the railway line which went from the shore to the mole. The mole proper, which continues the viaduct, is a magnificent mass of masonry, built on a segment of a circle that curves to the north-east. It is 1,850 yards long and about 80 yards broad. Its western face is built up to a parapet, the top of which is about sixteen feet above the upper surface of the mole. Projecting from the main mass of the mole is a narrow mole extension—also in masonry—260 yards long, with a lighthouse at its extremity.

The Germans had turned this mole into a minor fortress. On the mole extension, and commanding the approach routes with an unimpeded arc of fire there were three 4·1-inch and two 3·5-inch guns.¹ At 150 yards from the end of the mole was a wired-in position containing two anti-aircraft guns, and a shelter trench running across the mole. The guns' crews and the garrison of the mole were housed in large sheds of reinforced concrete; on its south-western end was a sea-plane base with its own garrison and concrete sheds.

According to the plan conceived by Admiral Keyes, the attack on this fortified mole-head was to be no mere diversion; for the marines and seamen were to storm the position and hold it until the blockships had passed through. The difficulty of escalading so strong a position as the mole-head was, in itself, formidable; and it was preceded by other difficulties which made an impressive list of obstacles or impediments that could only be overcome by skill and daring. The ships of the attacking force would have to pass through the barrage from the batteries in the Zeebrugge sub-section. Having done so they would have to endure continuous fire from the medium-calibre guns of the mole, and from as many more guns in the coast defences as could be ranged on them; and they would

¹ At the time there was doubt as to the mole defences. Admiral Keyes believed them to consist of three 4·1-inch guns on the mole head and six 3·5-inch guns on the mole-head extension. The strength of the batteries commanding the mole was also doubtful: the Lübeck (two 5·9-inch guns) was built after the operation and in consequence of it.

have to suffer this concentration of fire for as long as the attack lasted. The storming parties would have to be placed on the top of the high narrow parapet on the western face of the wall; here they would have to place scaling ladders to the surface of the mole some sixteen feet below them; and they would have to establish a bridge-head under fire from the machine gun nests at the entrance to the harbour, and from the destroyer or destroyers alongside the mole. At Ostend the block-ships would have to pass through a barrage of from seven to eight batteries, and manœuvre themselves into a blocking position under a concentrated fire from two or three. This fire would be quite uninterrupted, as the Ostend block-ships could not be assisted by diversionary attack.

It can easily be understood that these immense obstacles could only be overcome by speed and secrecy of movement, and that the selection of the very best place for landing the storming parties at Zeebrugge was, as it were, the base or starting-point of the whole plan. The first condition of success was that the party that stormed the mole should do their work without set-backs and with the greatest possible precision. After studying aerial photographs and plans of the mole provided by two Belgian engineers who had constructed the harbour, Admiral Keyes decided that the *Vindictive* ought to be laid alongside the mole at a point just to the westward of the mole-head battery. If all went well, and the storming parties were put ashore rapidly, all the guns would probably be captured in a few minutes.

The next point to be settled was the best position for the block-ships. It was known that both lock gates were run back into great concrete shelters during bombardments, if the tide permitted, and as the attack was to be delivered at or near high water, Admiral Keyes assumed that the lock gates would be run in on the first alarm. For this reason, he first intended that the block-ships should be run right into the lock, or, if that proved impossible, that they should ram the lock gate and dislocate it. Later on, however, Admiral Keyes abandoned this plan. The Belgian engineers who were consulted were quite positive that, if the block-ships were sunk in the deep water of the lock or just outside it, their superstructures could be cut away at low water and that destroyers and submarines would easily pass over what remained of them when the tide was high. Apart from this the Belgians were certain that if the block-ships were sunk in the entrance to the channel where silt collected, then the channel would be definitely obstructed. This was confirmed by two escaped Belgians who had actually worked in the dredger at Zeebrugge

during the German occupation. For these reasons Admiral Keyes decided that the leading block-ships only should make for the lock gates, and that the other two should be placed where the experts suggested.

The remainder of Admiral Keyes's plan was simple and natural. The attack on the mole was to be preceded by an aerial bombardment, and this was to be followed by an hour's bombardment of the coastal batteries near Ostend and Zeebrugge by the monitors. Similar bombardments supplemented by attacks by coastal motor boats were to be delivered during the weeks preceding the operation, whenever the weather permitted, so that the enemy would imagine that the bombardment which started the operation and the motor boat attacks which preceded the assault on the mole were no more than incidents in an established routine. During this last bombardment the storming and blocking forces were to approach the harbour. The smoke screen flotillas were to steam ahead of the attacking forces and put up an unbroken curtain of smoke across the objectives (see Plan). Thus far the plans for the two expeditions were identical. At Ostend the blocking expedition had to press into the entrance from the other side of the screen; at Zeebrugge the block-ships would only make for the entrance after the mole had been stormed. One hundred and sixty-five vessels of all classes, 82 officers, and 1,698 seamen and marines were allotted to the operation.¹

¹ The distribution of the forces and the duties of the various units were:

1. In the Swin, an anchorage in the Thames estuary off the Essex coast about 8 miles south of Clacton and out of sight of inhabited land.

Vindictive, Iris II and Daffodil for the attack on Zeebrugge mole.

Thetis, Intrepid, Iphigenia: block-ships Zeebrugge. *Sirius, Brilliant*: block-ships Ostend.

2. At Dover.

Destroyers:

Warwick (flag of Vice-Admiral).

Phoebe, North Star: patrol unit Zeebrugge.

Trident, Mansfield: patrol unit Zeebrugge.

Whirlwind, Myngs: patrol unit Zeebrugge.

Velox, Morris, Moorsom, Melpomene: patrol unit Zeebrugge.

Tempest, Tetrarch: patrol unit Ostend.

Attentive, Scott, Ulleswater, Teazer, Stork: outer patrol Zeebrugge.

Monitors:

Erebus, Terror: for long-range bombardment at Zeebrugge batteries.

Destroyers:

Termagant, Truculent, Manly: attending on *Erebus* and *Terror*.

[Continued next page.]

Although ships of medium draft can enter Zeebrugge at all states of the tide, the attack could only be delivered at some time near high water. At low water the top of the parapet was about forty feet above the sea, and the entrance channel was extremely narrow. The assault was only possible if the storming parties could reach the parapet rapidly—which they would never be able to do if it were nearly thirty feet above the level of the *Vindictive's* deck; and if the block-ships had water to manœuvre themselves right athwart the entrance channel. This condition alone made adequate preparation extremely difficult; for if it is added to the other conditions necessary to success, it will be seen that the expeditions had to reach their objectives at or near a night high water, and that the time of high water had to be such that the expedition arrived and left during the hours of darkness. These conditions were fulfilled on about five days in each lunar month; so that the times of arrival and depar-

Submarines :

C 1, C 3 : for destroying a portion of the viaduct, Zeebrugge.

Picket Boat : to rescue crews of *C 1* and *C 3*.

Minesweeper :

Lingfield : attached to Zeebrugge expedition for escorting motor launches with surplus steaming parties back to Dover.

5 motor launches : for removing surplus steaming parties from block-ships.

18 coastal motor boats.

28 motor launches : for smoke-screening Zeebrugge expedition, picking up survivors from block-ships.

3. At Dunkirk.

Monitors :

Marshal Soult, Lord Clive, Prince Eugene, General Craufurd, M 24, M 26, M 21 : for bombarding Ostend batteries.

Destroyers :

Faulknor, Mastiff, Afridi, Swift, Matchless : patrol off Ostend.

Mentor, Lightfoot, Zubian : accompanying Ostend monitors.

French torpedo boats :

Lestin, Roux, Bouchier : accompanying Ostend monitors.

6 British motor launches : for attending on big monitors.

18 British motor launches.

6 British coastal motor boats : for smoke-screening the Ostend expedition, and rescue work.

4 French torpedo boats.

4 French motor launches : attending on small monitors, *M 24, M 26, M 21*.

4. At Harwich (under Rear-Admiral Tyrwhitt).

7 Light Cruisers.

2 Flotilla Leaders and 14 Destroyers :

to cover the operation and prevent interference from the northward.

ture of each unit had to be worked out independently for each of these five days; nor must it be forgotten that these governing conditions were themselves governed by the wind. Unless the enormous smoke screen which was to cover the whole expedition was blown into the German defences, the expedition had little chance of success. To ensure the safe navigation of the force, the greater part of the area was very carefully surveyed and special navigational buoys laid out at various points of the track to be followed. This work was successfully carried out by the two Hydrographic officers on the Vice-Admiral's staff.¹ To prevent the removal of these buoys by the enemy it was essential that they should be laid at the last possible moment, and if the operation had to be postponed they would have to be withdrawn and relaid for the next attempt. The last fifteen miles, however, had to be navigated by dead reckoning with a tidal stream running across the line of advance, and through smoke screens which would blacken the natural darkness of the night. It was, therefore, doubtful whether the *Vindictive* could be brought alongside the mole at all, and more doubtful still whether the blockships and submarines would reach their destinations; if all did so, it would be a great achievement.

Early in April the ships allotted to the expedition were ready and the storming parties were embarked in the Swin detachment. The need for secrecy was now over, and the nature and purpose of the expedition was explained to the men in a lecture at which a plaster model of Zeebrugge mole was exhibited.

A week later—April 11—the expedition sailed, and the attacking ships, seventy-four in all, joined Admiral Keyes's flag off the Goodwin Sands. Whilst the force was moving across the Flanders Bight the 65th Wing of the Royal Air Force left Dunkirk and carried out the preliminary bombardment. At 12.45 a.m. the force stopped to disembark the men no longer required in the block-ships: the expedition was now only 16 miles from Zeebrugge mole. Before the ships re-started the wind died away, and then began to blow lightly from the south—the wrong direction for the smoke screens. The moment was a terribly difficult one for Admiral Keyes. Everything still favoured the enterprise except the wind. In a few minutes the crews would have left the block-ships and the expedition would again be under way. Should he allow it to go on, or ought he to turn it back? Very quickly, but very reluctantly, he decided that he could not lead so large a force of unprotected ships against

¹ Captain H. P. Douglas and Lieutenant-Commander F. E. B. Haselfoot.

a strongly fortified position unless their approach was covered by a smoke screen. As this was now impossible, he ordered the whole force back.

When the expedition returned to its anchorage, one coastal motor boat—No. 33—was found to be missing. No explanation of the casualty could be given, nor has it ever been since discovered exactly why or how the boat fell into the enemy's hands. The loss was more serious than anybody knew at the time, for on board the captured motor boat the Germans discovered papers and diagrams which showed them that a blocking expedition had been planned against Ostend, and gave them a good deal of knowledge about the practical details of its execution.

Three days later the force again set out, and again Admiral Keyes ordered it back, owing to a rising wind and sea, in which the small craft could not have operated. These two false starts were extremely trying to officers and men.

Between April 22 and April 28, the night high water at Zeebrugge occurred at suitable times. The morning of April 22 was fine; towards noon the wind turned into the north-east, and according to the latest forecast it was likely to blow from the same quadrant for the rest of the day. The conditions were, therefore, as good as they were ever likely to be. It was four days before full moon, and there was a good chance that the night would be cloudy. There was some uncertainty about the position of the enemy's destroyer flotilla; the last positive news we had received about the Flanders Force was that it had returned to Germany in the middle of February, leaving only a group of small torpedo boats behind. Whether they had returned to Zeebrugge was uncertain. This, however, in no way affected the plans, and Admiral Keyes decided that the moment for launching the expedition had at last arrived, and sent out the necessary signals.

All through the afternoon the ships were getting under way and sailing.¹ Captain C. S. Wills of the *Erebus* was the first to leave, with the monitors intended for the bombardment of the Zeebrugge batteries (1.10 p.m.). It was, at the time, a clear spring day, rather cold, with a blue sky half covered with grey clouds. But the cloud banks thickened during the next hour, and by the time Admiral Keyes was weighing in the *Warwick* (4.0 p.m.) the sun was hidden and the sky was overcast. By five o'clock the *Warwick* had taken up her position as leader of the main force, and Commodore the Hon. A. D. E. H. Boyle, with the *Attentive* and four

¹ See Maps 20 and 21. °

destroyers, was well on his way towards the gap in the Belgian barrage, through which the expedition had to pass. At half-past seven Sir Reginald Tyrwhitt left Harwich, with twenty-three vessels, to patrol the approaches to the Flanders Bight as an outer guard. The monitors for the Ostend bombardment left Dunkirk at 9.35 p.m. under the command of Commodore H. Lynes in the *Faulknor*.

The entire concentration and the first moves in the operation had thus been made in daylight, a necessary but very serious risk. As far as Admiral Keyes could tell, however, the expedition had started unobserved, and at eight o'clock, just before darkness set in, he made the signal "St. George for England"—a stirring reminder that the fighting would begin on St. George's Day.

Nearly an hour later, the *Warwick* was twenty-eight miles from Zeebrugge mole. A fine drizzling rain was now falling, but the night was quiet and the wind still blew towards the land from the north and east. Admiral Keyes now signalled to all the detached ships that the operation would be carried out.

Just after ten the force reached the gap in the barrage where Commodore Boyle and his destroyers were on patrol. Here the ships stopped for a quarter of an hour, and the superfluous men in the block-ships were taken off by five motor boats. At the same time all the coastal motor boats in tow of destroyers slipped their tows. When the force was again on its course, the *Warwick* and the *Whirlwind*, followed by the destroyers of their respective columns, drew ahead to drive off any outpost vessels that might be met with. Simultaneously, the Ostend block-ships parted company and steered for the Stroom Bank buoy. The leading ships were now only fifteen miles from the mole.

Meanwhile the *Erebus* and *Terror* had reached their bombarding positions off West Kapelle. Almost at the same time the monitors from Dunkirk reached their firing positions. They were in two divisions: the *Marshal Soult* and the *General Craufurd* (21st), the *Prince Eugene* and *Lord Clive* (20th).¹

¹ The organisation of the Dunkirk force was as follows:

20th Division.

Big Monitors: *Prince Eugene* (S.O.), *Lord Clive*.

Destroyers: *Lestin* (leader), *Roux*, *Bouclier*.

M.L.s: 2 British detailed for each big monitor.

Aiming light attached group: *M 26*; 2 French T.B.s, 2 French

M.L.s. *M 21* standing by with an aiming light.

21st Division.

Big Monitors: *Marshal Soult* (S.O.), *General Craufurd*.

[Continued next page.]

The *Marshal Soult*, which had been detailed to bombard the Jacobynessen, Beseler and Cecilie batteries, anchored at the southern end of the Middle Bank; the *General Craufurd* took up a position about four and three-quarter miles to the north-north-west. Her targets were the Hindenburg, Aachen and Antwerpen batteries. The *Prince Eugene* and the *Lord Clive*, whose targets were the Tirpitz and Aachen batteries, anchored at the eastern end of the West Deep, near Nieuport. At ten minutes past eleven these ships opened fire simultaneously. The Zeebrugge monitors began their bombardment about twenty minutes later.

The fine steady drizzle of rain was still falling on land and sea, and for this reason the bombardment by the monitors was not preceded by a bombardment from the air. This, though inevitable, was a great disappointment to Admiral Keyes, who had hoped that the bombing would drive the German guns' crews into their dugouts and so leave the guns more or less unattended when the expedition reached the coast.

Just before half-past eleven the coastal motor boats moved off at high speed and laid a preliminary smoke screen across the entire line of advance. Under cover of this the slower motor launches moved to their stations and laid the screens which were to blind the enemy during the last approach. The smoke went up in clumps of murky cumulus from a line that ran roughly parallel to the coast for rather more than eight miles. As it drifted down towards the German batteries and look-out posts, two groups of coastal motor boats opened the battle. It had been arranged that motor boats Nos. 25 BD, 26 B and 21 B should pass along the western side of the mole and spray it with fire from their Stokes guns, and that Nos. 5 and 7, which were small, forty-foot boats, should go inside the harbour and sink any German destroyers that might be alongside the mole. This attack on the western end of the mole was to distract the enemy's attention whilst the *Vindictive* approached. The attack entrusted to coastal motor boats Nos. 5 and 7 was more critical; its object was to secure a safe passage for the block-ships. Enemy destroyers lying alongside the mole might easily torpedo the block-ships and bring them to a

Destroyers: *Mentor*, *Meteor*, *Zubian*.

M.L.s; 2 British detailed for each big monitor.

Aiming light attached group: *M 24*, 2 French T.B.s, 2 French M.L.s.
22nd Division.

23rd Sub.: *Faulknor*, *Lightfoot*, *Mastiff*, *Afridi*.

24th Sub.: *Swift*, *Matchless*, (*Tempest* and *Tetrarch* from Swin).

M.L. Division: 18 (Max. No.) British M.L.s (float and smoke).

C.M.B. Division: 6 C.M.B.s.

standstill before they reached the harbour entrance; and it was of the first importance that any destroyer capable of impeding the passage should be put out of action before the block-ships passed the lighthouse.

At the time laid down, these two groups left the main force and steamed towards the mole at high speed; their commanding officers may justly claim to have made the first thrust, and to have delivered the first blow in the operation. The smoke screen had already been laid when they approached the mole head; but they passed through it and carried out their orders: motor boats Nos. 25 BD, 26 B and 21 B, kept the western mole under fire; Sub-Lieutenant C. R. L. Outhwaite, R.N.V.R., in No. 5 fired at what he believed to be a destroyer off the mole, and Sub-Lieutenant L. R. Blake fired a torpedo at a destroyer lying alongside, and was under the impression that she was hit near the fore bridge. These attacks were, however, less successful than the officers imagined and the enemy paid little attention to them; they heard the first group in the smoke off the mole, but were quite unaware that they were attempting to keep the mole under fire; the detonations of Sub-Lieutenant Blake's torpedoes were mistaken for shells from the monitors. Sub-Lieutenant Blake was, nevertheless, under very heavy machine gun fire when he made off to seaward. When he cleared the mole the *Vindictive* had nearly reached her destination. The *Phoebe* and the *North Star* were patrolling off the mole, ready to beat off enemy destroyers. The Vice-Admiral had taken the *Warwick* to a position from which he hoped to watch the attack on the mole, and see the block-ships enter the harbour. The enemy seemed to be taking no special precautions: the two torpedo craft alongside the mole had not got steam up, and no vessels had been ordered to patrol the approaches to the harbour. The entire expedition had reached its destination unreported and unobserved.

In fact the enemy were only roused at the very last moment, and then they sent up volleys of star shells from the mole and the batteries behind. The *Vindictive* and the force approached the mole in a light which seemed to Captain A. F. B. Carpenter to be about as strong as that of early morning twilight. By extraordinary misfortune, the wind changed a few minutes later. It swung round completely, and blew almost straight off shore. The immense clouds of smoke that were being made by the motor units were thus blown right across the approach routes; they severed communication between destroyers on patrol and ships approaching the harbour; each commanding officer was now left to act as he

thought best in a blinding pall of smoke which obscured the fo'c'sle of his own ship; whilst the German gunners watched our vessels emerging one by one from the vast curtain of smoke to seaward, into the flare of their star shells.

Just before midnight the *Vindictive* came through the last smoke screen, and Captain Carpenter saw the mole for the first time. The lighthouse was plainly visible and the *Vindictive* was heading for the middle of the mole extension. Captain Carpenter at once put the helm hard over and increased to full speed. As the ship moved across the narrow strip of water which now separated her from the mole, the German battery opened upon her. The officers in charge of the *Vindictive's* armament immediately replied with a concentrated fire against the guns on the mole. The German gunners were firing at a target that could hardly be missed, but was moving fairly rapidly across the battery's arc of fire. The enemy had little time, but they used it well. Two minutes after the *Vindictive* had passed through the last smoke screen, Captain H. C. Halahan, in charge of the seamen's landing parties, Lieutenant-Colonel B. H. Elliot, the commanding officer of the Marines storming parties, and Major A. A. Cordner, his second in command, were all dead; and Commander P. H. Edwards, R.N.V.R., was severely wounded; and Lieutenant-Commander A. L. Harrison was struck down unconscious. The casualties to the crew and the material damage were equally serious; the crews of the 7.5-inch howitzers were nearly all killed and the guns themselves put out of action; the flammenwerfers were destroyed, and, worst and most serious of all, a large number of the movable gangways—across which the men were to swarm on to the parapet—were shot away. By wonderful good fortune the ship was only damaged in her upper works and was still seaworthy. None the less the loss of the howitzers deprived the *Vindictive* of half her power of retaliation: the damage to the gangways kept the storming parties massed and huddled at the foot of two gangways which were too narrow to carry them. Captain Carpenter coned the *Vindictive* through this hurricane of fire from a shelter on the port side called the flammenwerfer hut. It had been planned that he should lay the *Vindictive* right alongside the battery, so that the storming parties should rush the guns and the entire mole head position as soon as the gangways were lowered. The ship was actually placed alongside about three ships' lengths beyond this assigned position;¹ as she came to a standstill, the port anchor was let go within a yard of the

¹ About 300 yards.

mole.¹ The extraordinary difficulty of getting a foothold on the breakwater was now patent. The east-going tidal stream, pressing against the mole, made a sort of cushion of troubled water which forced the ship back from the face of the masonry. "With the helm to starboard her bows came in at once, but the brows would not then reach the parapet. With the helm to port she surged away from the mole." Lieutenant H. G. Campbell, the commanding officer of the *Daffodil*, brought help in these trying moments. As the *Vindictive* approached the mole he had steered his ship out on to her starboard beam, and now, as the *Vindictive* was labouring in the troubled water off the mole face, he approached her bows on, and pushed her in to the mole. These were his orders; but only a fine seaman could have manœuvred a ferry boat with such wonderful precision at a moment of such confusion. A few minutes later, Commander V. Gibbs brought the *Iris II* alongside the mole ahead of the *Vindictive*, and let go the starboard anchor.

As soon as the *Daffodil* pressed the *Vindictive* alongside the mole, Lieutenant-Commander B. F. Adams led the first of the seamen storming parties up the narrow swaying gangways. They were followed by the Marine storming platoons under Lieutenants T. F. V. Cooke, C. D. R. Lamplough and H. A. P. de Berry. When these groups of men reached the mole they realised that there could be no thought of rushing the mole head battery as had been intended. The *Vindictive* had gone past the position assigned to her, and the machine-gun positions and barbed wire were now between the storming

¹ Organisation of seamen storming parties :

In *Vindictive* : Groups A and B.

In *Iris* : Group C.

In *Daffodil* : Group D.

Total, 8 officers and 200 men.

Organisation of R.M. storming battalion :

In *Vindictive* : Battalion H.Q.

Portsmouth (B) Company.

Plymouth (C) Company.

Lewis gun parties from M.G. Section of battalion.

In *Iris* : Chatham (A) Company.

2 Vickers gun sections.

2 Stokes mortar crews.

Organisation of demolition parties :

The whole demolition party was called "C" Company and was divided into three parties (Nos. 1, 2 and 3); Party No. 1 was subdivided into two sections, Parties Nos. 2 and 3 into four sections.

In *Vindictive* : Demolition Party No. 2 (Sections G, O, R and S).

In *Daffodil* : " " No. 1 (Sections A and B).

 " " No. 3 (Sections W, X, Y, Z).

parties and the gun positions they had to carry. But as a diversion the attack on the mole might still succeed if the *Vindictive* and the storming parties could hold their ground notwithstanding that they would be a focusing point for the fire of every German gun that could be brought to bear upon them. The leading Marine platoons therefore formed "a strong post at the shoreward end of No. 3 shed"; platoons Nos. 5, 7, and 8 which had followed close at their heels under Captain E. Bamford, were formed in a regular tactical order.

On reaching the parapet, Lieutenant-Commander Adams endeavoured to place the *Vindictive's* parapet anchors which Lieutenant-Commander R. R. Rosoman was working from the ship. He found, however, that the anchor derricks were too short and at once moved off towards the mole head battery with his men. Wing-Commander Brock was with him. After the party had moved some way they were brought to a standstill at a trench which the enemy was defending with machine guns. Lieutenant-Commander Harrison now reached the mole, notwithstanding his injuries, and took charge of the seamen storming parties while Lieutenant-Commander Adams went back to ask Major B. G. Weller for reinforcements. Wing-Commander Brock fell a few minutes earlier. He was shot down whilst seeking for an enemy range-finder, which he desired to examine.

Meanwhile the remainder of the marines and the seamen demolition parties were getting on to the mole; but it was evident that it could only be held by an extraordinary feat of courage and discipline; for the German gunners in the destroyer alongside the mole were now sweeping the bridge-head that the marines were holding.

Although the officers in the shore batteries refrained from firing at the mole while their own men still held it, the *Vindictive's* upper works were being pounded into scrap-iron by the battery on the mole, and a fruitless endeavour was being made to place the parapet anchors from the *Iris*. Lieutenant C. E. V. Hawkings contrived to place a scaling ladder as soon as the ship came alongside and scrambled up it. But as he reached the top, the ship surged away and he was left alone. He was last seen defending himself with his revolver. Lieutenant-Commander G. N. Bradford now performed an act of desperate courage. Seeing that the parapet anchor could not be made to catch, he scrambled up the derrick from which it was worked and lowered himself on to the swaying anchor. Here for a few moments he swung like an acrobat, and then leapt on to the parapet and placed the anchor. An instant later he was struck down by machine-gun bullets and fell

into the dark surging waters between the ship and the mole.

Commander Gibbs now decided that it was impossible to get the men on to the mole over the scaling ladders, and took his ship alongside the starboard quarter of the *Vindictive*. The storming parties in the *Daffodil* could only be got over the bows in dribbles, and very few of them ever reached the mole.

Twenty minutes after the *Vindictive* had been put alongside, the position was precarious and dangerous to a degree. Thanks to the extraordinary discipline of the Royal Marines, a bridge-head had been formed opposite the brows, and thanks to the exertions of the seamen storming parties, the *Vindictive* had been partially secured to the mole; but the difficulties of sending reinforcements to the bridge-head were increasing with every moment, for the *Vindictive's* upperworks were rapidly being reduced to a mass of twisted iron. She was indeed receiving terrible punishment and had just been struck in the foretop by a shell which put all the guns in it out of action. Only one man was left—Sergeant N. A. Finch, R.M.A.; he continued to fight his gun with bitter resolution, until he too was struck down by another shell. The foretop had been armed with two pom-poms and six Lewis guns, and had been manned by a party of Royal Marine Artillerymen under the command of Lieutenant C. N. B. Rigby, R.M.A. Ever since the *Vindictive* had been laid alongside, these cool-headed men had fired rapidly and methodically at every point from which the enemy appeared to be firing; in particular at the two German destroyers alongside the mole. The death of Lieutenant Rigby and his artillerymen was a terrible loss to the men on the mole.

It was at about this time that the Vice-Admiral saw the block-ships moving in a regular, ordered procession towards the entrance channel. A few moments later Captain Carpenter also saw their funnels moving steadily forward on the other side of the mole. He at once went below to the dressing stations and announced that the mole had been stormed and the block-ships had passed in. He was answered by round after round of cheering from the crowds of wounded and dying men around him.

Though it was found impossible to destroy the mole head guns, the attack as a distraction had succeeded. For whilst the *Vindictive* was labouring against the outer wall, and her upper works were literally being blasted away at point blank range, whilst the storming parties were struggling desperately to keep their foothold on the parapet, the three block-ships had passed up harbour. The enemy most probably thought

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that the assault upon the mole was the first echelon of a large landing expedition; and it was against the stormers and the *Vindictive* that they had concentrated their fire.

At about midnight the *Thetis*, leading the three ships, first came under the fire of the batteries. It was apparently a barrage fire, directed against no particular object, and for the next quarter of an hour the block-ships steamed through it. They were still covered by a fairly thick smoke screen, for the wind, blowing off the shore, was smothering the approach routes. At twenty minutes past twelve Commander R. S. Sneyd, in the *Thetis*, sighted the great masonry buttress on the mole head and the lighthouse above it. He was almost on top of them; so he put his helm hard over, signalled to the ships astern of him, and went on at full speed. As he did so, the guns on the mole head extension opened fire on him. The officer in charge of this wave-lashed outpost of the Belgian fortifications must have been the first German battery commander to realise the character and purpose of the attack. We do not know what he signalled to headquarters, but one thing at least is certain. Just as the German battery officer sighted the block-ships, a tremendous explosion at the end of the mole severed his telephone wires and cut all communication between the mole and headquarters.

Lieutenant R. D. Sandford, in Submarine C 3, was the responsible person. As we have seen, in order to prevent reinforcements reaching the mole, Admiral Keyes had planned the destruction of the viaduct connecting it to the shore. For this purpose it was intended to blow up two submarines, loaded with several tons of high explosive, against the iron girders. The boats selected were C 3 and C 1 (Lieutenant A. C. Newbold). They had been in tow of the *Trident* and *Mansfield* all night; but the tow-line of the C 1 had parted and only C 3 had been brought to the starting position provided for in the operation orders, at the prescribed time. C 1, proceeding under her own power, was well behind. After his ship was cast off, Lieutenant Sandford followed the prescribed courses towards the viaduct. The submarine had been fitted with special gyro control gear, so that she could be abandoned after the final course had been set. Lieutenant Sandford, however, left nothing to chance, but rammed the viaduct with the crew on board. He struck it shortly after midnight and jammed the bows of his vessel tight between the girders; he then lighted the fuses to the mass of explosives with which the submarine had been filled, and made away with his men in a motor skiff which had to be rowed as the propeller had been damaged. They were sighted from the viaduct and fired upon

by rifles, machine guns and pom-poms; but when they were only a cable's distance from the viaduct, the submarine blew up and blasted away 100 feet of the viaduct. The flash lit up the entire theatre of the struggle, and yet, at that moment, the battle was being fought with such fury and desperation that the Vice-Admiral saw, but could not hear, the explosion. The roar of the artillery was so intense that it had obliterated the sound of this tremendous detonation.

The explosion beneath the viaduct had severed communications between the mole head and the shore; but at least the German battery commander still had three important targets at point-blank range. The block-ships were passing so close that in ordinary times the captain on the bridge could have hailed the lighthouse keeper and got an answer from him. The German gunners may have been distracted by a sudden change of targets, for up to then their guns had probably been trained to seaward. At all events, the block-ships passed through their fire without losing control and steamed on towards the channel. None the less, this short outburst of fire had done terrible damage to the *Thetis*. As she passed out of the gun-fire, tons of water were pouring in through the shell-holes in her starboard side and she had already taken a heavy list. A moment later she struck the nets and obstructions that had been laid across the harbour mouth. She cut through them; as she did so Commander Sneyd saw the piers at the entrance to the channel. Just as he sighted his goal, the engines stopped; the propellers were so fouled by the mass of wire netting from the obstruction that the engines could no longer keep them revolving. Commander Sneyd therefore signalled to the *Intrepid* and *Iphigenia* to pass to starboard of him. His ship was now drifting to port, and a few minutes later she grounded on the eastern side of the channel. The engine-room staff reported soon after, however, that the starboard engine could be worked, and with this Commander Sneyd again got the vessel on the move. She was in a sinking condition and grounded almost at once on the opposite side of the channel; he then fired the sinking charges. Lieutenant H. A. Littleton, R.N.V.R., in motor boat No. 526, was near the *Thetis* when she sank; he at once went towards her and took Commander Sneyd and the crew on board from the cutter in which they had left the ship. Having done this "easily"—to borrow his own phrase—he made towards the canal entrance to assist the other blockships.

The *Thetis* had not reached the lock gates; but Commander Sneyd had done his work. The worst fire from the

mole battery had been concentrated against his ship, and he had cleared the obstruction from the track of the two ships in his wake. The *Intrepid* and the *Iphigenia* passed on unimpeded; and Lieutenant S. S. Bonham-Carter, who was now leading in the *Intrepid*, took his ship well past the piers. The enemy was then concentrating every available gun against the *Vindictive* and the *Thetis*, so that the desperate venture against the mole was still serving its purpose. Lieutenant Bonham-Carter noticed, as he passed between the piers, that practically no guns were firing upon his ship. When the *Intrepid* was well inside, he put his helm hard a-starboard and turned his engines so as to bring the ship athwart the channel, and ordered the crews into the boats. When he saw that his ship would turn no further he sank her.

It had been impossible to remove the superfluous men from the *Intrepid*, and the whole crew of 87 men were on board. Most of them got away in two cutters and a skiff. Lieutenant Bonham-Carter and a party of officers and men paddled away on a raft. Meanwhile Lieutenant E. W. Billyard-Leake, who was conning the last of the block-ships, came into a thick smoke screen as he approached the piers; when he cleared it he found that a dredger and a barge were right on his track. He severed the tow-line which connected them, and then sighted the *Intrepid* ahead. He saw that her stern was aground on the western bank, and that there was a gap between her bows and the eastern side of the channel. He made for it, but whilst he was manœuvring into position he collided with the *Intrepid*, and his ship was temporarily out of control. As he cleared the sunken block-ship ahead of him another smoke screen smothered the entire channel, and he had to manœuvre his ship in sulphurous darkness. When he felt his forepart strike against the eastern bank, he realised that his ship must be across the gap between the *Intrepid's* bows and the shore, and so ordered his men to take to the boats. He then moved his engines to throw his vessel across the channel, and sank the ship. Lieutenant P. T. Dean, R.N.V.R., was off the stem of the ship in motor boat No. 282. Lieutenant Bonham-Carter was also near by with his raft. Lieutenant Dean took off as many men from the cutter as his launch would carry, and rescued the captain of the *Intrepid*. He then made off for the harbour mouth with the cutter in tow. He was in a hurricane of shrapnel and machine-gun fire; for the Germans were now laying a tremendous barrage across the entrance. The *Vindictive* was being hit several times a minute, and the damage done to her upper-works was so terrible that Captain Carpenter had to order the *Daffodil's*

commanding officer to sound the recall. His own ship had no searchlights left from which to flash the signals, and no siren upon which to sound them.

As soon as the recall was sounded the storming and demolition parties retired over the brows. The Marines then withdrew in groups of six, carrying their wounded with them over the scaling ladders. The men of No. 9 Platoon covered the final retirement and were the last to leave. Meanwhile Admiral Keyes, who had seen the block-ships go in and was aware that the storming ships were being terribly punished, ordered the commanding officer of the *Warwick* to close the *Vindictive*. The *Warwick* was taken close in to the mole, to the westward of her, and Admiral Keyes saw above the parapet the wrecks of the block-ships; they were all three lit up by the enemy's star shells, and there could be no doubt that they lay at the entrance to the canal.

Captain Carpenter kept his ship alongside for twenty-five minutes after the recall had been sounded. The storming parties had ceased coming on board for several minutes when the *Vindictive* and the storming ships made for open water. As they did so, they came in sight of the *Warwick*, so that Admiral Keyes knew that they had withdrawn. But their punishment was not yet over, for it was at this moment that a group of German guns found the *Iris* and riddled her with shell. She was hit ten times by smaller guns and twice by the heavy batteries. Her commander, Valentine Gibbs, was mortally wounded, Major C. E. C. Eagles of the Royal Marines was struck down, and Lieutenant G. Spencer, R.N.R., though terribly wounded, had to turn the ship away from the land. When the *Iris* got out of the gunfire half her bridge was blown away, and she was blazing. The main deck was simply choked with dying and wounded.

The German gunners were, indeed, firing with deadly accuracy, and it was at about this time that the destroyers off the mole suffered a serious loss. Some time after one o'clock Lieutenant-Commander K. C. Helyar, in the *North Star*, sighted some vessels alongside the mole and closed it in order to torpedo them. He fired all his torpedoes and began to withdraw his ship; but the mole head battery found him, and in a few moments his ship was disabled and sinking. Lieutenant-Commander H. E. Gore-Langton at once brought the *Phæbe* alongside and the majority of the crew were taken off.

Admiral Keyes having seen the storm-ships withdrawing, and after following them for a few minutes, stood in again towards the mole to cover the retirement of the small

craft. Lieutenant Dean, who had now cleared the mole head, sighted the *Warwick* and steered for her to transfer the block-ships' survivors. His boat had been repeatedly hit since he had left them, and the living, the wounded, the dying and the dead were all huddled together.¹ But those who were still alive and conscious had seen the block-ships sunk in the entrance channel, and were swept by the wild emotions which seize men in the hour of victory. As the motor boat staggered towards the *Warwick* the men in her saw that she was flying an immense silk flag which had been given to Admiral Keyes when he commanded the *Centurion*. They rose to their feet and rent the air with their cheering. Their shout of triumph was amongst the last sounds of the battle; for the swarm of ships that had appeared off the coast about two hours before was now fast disappearing in the darkness.

The attempt to block Ostend failed. Here, as at Zeebrugge, the motor boats put up a curtain of smoke across the entrance, and the wind shifted at the last moment. The results were more serious. The Stroom Bank buoy, from which the block-ships were to steer for the entrance to the harbour, had been moved a mile to the eastward. In the dense smoke that blew in their faces and with a tidal stream running at a rate subject to considerable changes, the block-ship commanders could not be certain of their exact position. When, therefore, the smoke lifted and they sighted the buoy, being unaware that it had been shifted, they closed it and steered for the harbour on a course calculated from its normal position, and grounded to the eastward of the entrance. They blew up their ships, which were then under a heavy fire, and their crews were taken off by three motor launches—Nos. 532, 276 and 283.

Some time before dawn, after the firing had ceased, and the last ships had disappeared in the darkness, German parties began to search Zeebrugge mole for survivors. They found about a score of men near the great shed which stood beyond the wire defences of the mole head battery.

By the time the British prisoners were herded together in the convict cells where the Germans confined them, aeroplanes were flying over the entrance to ascertain the positions of the block-ships. The day was cloudy and the photographs were taken in a bad light; none the less, they showed the two block-ships lying diagonally to the axis of the channel, right inside the entrance piers. The *Intrepid*, which was furthest in, was on the western side of the channel, and the airmen estimated that her bows were about thirty-

¹ 101 persons in all.

eight yards from the eastern bank of the channel. The *Iphigenia*, which was outside the *Intrepid*, lay right across the navigable channel: there were nineteen yards of clear space between her extremities and the eastern and western banks.

It was impossible for us to determine what the effect of this would be. The German commanders were confident that the submarine campaign would not be impeded, for, after inspecting the sunken cruisers, the officer in command of the 1st Marine Division reported that the channel was "not completely blocked." On the following day Admiral von Schröder sent a general report to Berlin in which he stated that units of the 2nd "T" Half Flotilla had already used the passage to the west of the block-ships, and that "Submarine warfare would be neither obstructed nor delayed by the English onslaught."¹

The information actually in our hands justified a rather different conclusion. We did not know that the local commanders had reported so cheerfully to Berlin, but we did know that, on the morning after the expedition, the German authorities had warned all submarines that Zeebrugge was blocked, and had ordered them to return by way of Ostend.

This order was, however, more a precaution than a statement of fact and it only remained in force for one day. During the 24th, three submarines left by way of Ostend, and, on the following day, *UB 16* went to sea past the block-ships in Zeebrugge. On the 27th, entries and exits were made partly by Zeebrugge and partly by Ostend, after which the average number of sailings and arrivals was maintained. These facts were unknown to our authorities at the time, who still hoped that Zeebrugge was practically sealed up, and that a successful operation against Ostend would make the Flanders bases unusable. Though the channel was not sealed the passage which the Germans hoped to keep clear on the western side of the sunken block-ships was evidently very small, and only passable near the times of high water, for the German engineers hurriedly removed two small piers near the wrecks in order to get more room.

¹ The 2nd "T" Half Flotilla was composed of small torpedo boats of low draught. When Zeebrugge was reoccupied in October 1918, the harbour and canal entrance were examined by experts, who found that the Germans had dredged a channel through the silt on the west side of the block-ships after removing two piers on the western bank of the channel. The dredged channel was marked by great iron girders; there was no channel on the eastern side of the block-ships. See Map 22.

1

The Blocking of Ostend, May 10, 1918

As soon as Admiral Keyes knew that the expedition against Ostend had failed, he informed the Admiralty that he intended to block the port with the *Vindictive* during the next four days. The necessary preparations were, indeed, completed in this very short space of time, but on April 27 the weather was bad and the operation had to be postponed until the night high water at Ostend occurred at a suitable time.

The selection of the new date was a matter of nice calculation. The essentials of the problem were that the blockship should be run into the harbour near high water, that the expedition should sail in total darkness, and that it should get out of range of the coastal batteries before daylight came up. The difficulty of fulfilling these conditions was increasing every day, as the nights were shortening fast. During the first fortnight of May the sun set between half-past seven and a quarter to eight, and rose between a quarter-past four and half-past. The period of twilight was lengthening, and the period of absolute darkness was only three hours (10.24 p.m. to 1.30 a.m.). This, however, was the period of complete darkness which is established by astronomical calculations: for ordinary practical purposes it might be said that effective darkness began at half-past nine and ended at about three o'clock in the morning. The expedition would cover the distance between Dunkirk and Ostend in two and a half hours, from which it followed that if the attack was to be delivered within an hour of high water, then the days selected must be days on which the night high water at Ostend occurred not earlier than midnight. If the expedition was to clear the coastal batteries before daylight, the latest hour of high water would be 2.0 a.m. The times at which the expedition was to start could not, however, be calculated merely by arithmetic. Fortunately the best local knowledge was available, that of the captains of the Ostend-Dover packet boats, who had spent many years going in and out of Ostend and whose vessels were then working under the Vice-Admiral's command. They informed Admiral Keyes and his staff that the tidal streams off the harbour mouth were irregular during certain days of the lunar month and that the east-going current would not be running at equal strength before and during every high water. As it was always part of the Admiral's plan that this easterly tidal stream should be used

for swinging the blocking cruiser across the channel, the times of departure in the programme were not separated by equal periods of time. The necessary conditions obtained absolutely between May 11 and 13, and very nearly obtained on the 9th and 14th.¹ The question which Admiral Keyes had to decide was whether these two doubtful days should be included amongst those upon which the expedition was to be allowed to sail. There was little reason for excluding May 9: May 14 was more doubtful, but after long consideration Admiral Keyes placed both nights on his schedule of possible dates.

The postponement from April 27 to May 9 made it possible to add another blockship—the *Sappho*—to the expedition. Admiral Keyes appointed the officers of the old block-ships to the command of the new ones and placed Commodore Lynes in charge of the expedition.

The new plan was similar to its predecessor. There was to be the same carefully marked approach route, the same smoke screens across the batteries, and a brief preliminary bombardment. It was, however, very uncertain whether the enemy would be able to supplement the resistance of his batteries by attacking the expedition with destroyers. We were still without any reliable information about the Flanders Flotilla, as our latest news was nearly three months old. Knowing as we did that it had returned to Germany in the middle of February, it seemed most improbable that it should not have been sent back, yet we had no information about its return. If the flotilla were actually in Zeebrugge we did not know whether the destroyers would be able to pass the obstructions rapidly and attack the expedition as soon as the

1

| Date. | Time of night H. W. at Ostend (Greenwich Mean Time). | Moon- rise. | Sun- rise. | Sun- set. | Effec- tive dark- ness. | Latest hour at which expedition could sail from Dunkirk. |
|-------|---|----------------|-----------------------|------------------------|----------------------------------|---|
| May 8 | 11 p.m. | 2.46 a.m. | | | | |
| 9 | 11.47 p.m. | 3.18 a.m. | | | | 10.30 |
| 10 | | 3.48 a.m. | | | | 11.0 |
| 11 | 0.30 a.m. | 4.29 a.m. | | | | 11.30 |
| 12 | 1.12 a.m. | 5.18 a.m. | | | | 11.30 |
| 13 | 1.55 a.m. | 6.18 a.m. | | | | 11.45 |
| 14 | 2.40 a.m. | 7.27 a.m. | | | | Midnight |
| | | | 4.15 a.m. to 4.0 a.m. | 7.30 p.m. to 7.45 p.m. | 9.30 p.m. to 3.45 a.m. | |

alarm was given. In the circumstances, it seemed best to assume that the Zeebrugge destroyers would intervene, and to take special precautions in the eastern approaches to Ostend. This covering of the expedition was, indeed, so important that Admiral Keyes determined to see to it himself. He divided the twelve destroyers of the covering force into three independent groups of four, and stationed them on three patrol lines, to the southward and eastward of Ostend Bank. He himself with his flag in the *Warwick* took the outer station at which the enemy's destroyers would most probably be first encountered. This division of the covering force was the outcome of experience which had shown that larger units lose their cohesion in a night action. Even if the enemy intervened in great strength, the Vice-Admiral was confident that his small units would be better able to deal with them than a larger, concentrated force.

On May 8 everything was ready, and the Commodore sent out a stirring appeal to his force. The previous expedition had been unsuccessful owing to chances of the sea which would, in all probability, never occur again; everybody engaged had carried out their duties with such fortitude and precision that they could be almost certain of success in ordinary circumstances. There was, however, nothing to be done but to wait until the wind and weather were favourable, and to hope that the waiting period would soon be over.

The opportunity occurred earlier than had been expected. On May 9, the first of the five possible days, the Vice-Admiral and the Commodore visited the Belgian headquarters at La Panne. Just after lunch, the Vice-Admiral noticed that the wind had shifted to the northward and was blowing in towards the shore. Both he and the Commodore left their hosts at once, and returned to Dunkirk as fast as their motor could take them. Here the Vice-Admiral signalled to the force that the expedition would start that night, and then hurried on to Dover to take command of the destroyer division with which he intended to cover the approach route.

The forces sailed from Dunkirk and Dover after darkness had set in.¹ The enemy had evidently learned that our

¹ 30th Division :

Monitors : *Prince Eugene, Sir John Moore.*

Destroyers : *Lestin, Roux, Bouclier.*

4 large motor launches.

M 27 ; 2 French destroyers, 2 French motor boats, attached to the 30th Division for marking the position of aiming light.

31st Division :

Monitors : *Erebus, Terror.*

Destroyers : *Phæbe, Morris, Manly.*

forces were assembling for some big operation; for just as the block-ships were leaving the roadstead, the Commodore was informed that all the buoys off Ostend had been removed. This unpalatable information, obtained at the last moment by the Air Service, was confirmed by Squadron Commander Ronald Graham, who made a special reconnaissance. The Commodore had, however, provided against the contingency, and a special light buoy, which was to be laid at the last turning-point off Ostend harbour, was carried in the force. The German precaution was none the less disconcerting.

This, however, was only the first set-back. Soon after the force left harbour an accident to the *Sappho's* boiler reduced her speed to six knots.

Obviously she could not take part; but, as the original intention had been to block the harbour with the *Vindictive* alone, as the wind and sky seemed almost to invite the Commodore to go on, he signalled to Commander A. E. Godsall that he had "every confidence he would do his best without the *Sappho*," and the expedition continued on its way.

The divisions of the force moved to their allotted stations during the night; at every moment the Commodore expected interference from the enemy; but the hours went by and no enemy ships were reported. As he approached Ostend the Commodore saw star shells going up from the coast at fairly regular intervals, but that was all. He could detect no signs of exceptional vigilance.

At half-past one every division of ships was at its station and the *Vindictive* was nearing the turning-point off Ostend. The motor boats and launches that had been ordered to carry out the inshore operations now moved off, and a quarter of an hour later the Commodore gave the order to begin the bombardment.¹ From the West Deep the *Prince Eugene* and the

4 large motor launches.

M 23, M 25; 2 French destroyers and 2 French motor boats, attached to the 30th Division for marking the aiming light.

32nd Division: *Faulknor* (Commodore's broad pendant), *Nugent*, *Moorsom*, *Myngs*.

33rd Division: *Broke*, *Matchless*, *Mansfield*, *Melpomene*.

34th Division: *Warwick* (flag of Vice-Admiral), *Velox*, *Whirlwind*, *Trident*.

Motor launch Division: 18 large boats.

C.M.B. Division: 5 large, 3 small boats.

Attached C.M.B.'s: 2, for escorting *Vindictive*.

¹ The schedule of duties for the mosquito craft was as follows:

C.M.B.s Nos. 21 and 22: to mark the Stroom Bank, and when relieved by C.M.B. No. 12 to move off and lay a calcium buoy between the piers.

[Continued next page.]

Sir John Moore opened upon the *Cecilie*, the *Beseler*, the *Antwerpen* and the *Aachen* batteries to the west of Ostend; and from their anchorage north of the *Wenduyne Bank*, the *Erebus* and *Terror* opened upon the *Jacobyneessen*, the *Tirpitz* and the *Hindenburg* emplacements.

The officers in charge of the coastal motor boats that had been ordered to mark the wrecks of the *Brilliant* and *Sirius* were the first to get in touch with the enemy. Lieutenant *W. H. Bremner*, in motor boat No. 22,¹ and Sub-Lieutenant *Outhwaite*, in No. 5, had some difficulty in locating the old block-ships; whilst they were searching, motor boat No. 22 fell in with a German torpedo boat and engaged her. After a brief exchange of shots the enemy made away to the eastward.

Meanwhile, the other motor boats had started the torpedo attacks against the pier heads. Lieutenant *A. Dayrell-Reed*, *R. N. R.*, in coastal motor boat No. 24, penetrated the smoke screen and reached the entrance to the harbour at about a quarter to two. He fired a torpedo at the eastern pier head and saw it explode. Lieutenant *A. L. Poland*, in motor boat No. 30, was only a few minutes behind his colleague. He saw the explosion against the eastern pier head and fired at the other from a range of about 700 yards. Again the torpedo hit and exploded; but it is most doubtful whether these determined and gallant attacks shook the pier head defences—as they were intended to do—or whether they put the German gunners thoroughly on their guard, and ensured for the *Vindictive* a hot reception.

Whilst Lieutenants *Poland* and *Dayrell-Reed* were delivering these preliminary attacks, the *Vindictive* was rounding the last turning-point. As she did so, the Commodore, who was now at his station to the north of the harbour,² saw with dismay that his ill luck was not yet exhausted. The smoke screen to the south seemed very well laid, but the

C.M.B. No. 12: to relieve C.M.B.s Nos. 21 and 22 at the *Stroom Bank* and then to mark it.

C.M.B.s Nos. 24 and 30: to deliver torpedo attacks on the piers.

C.M.B.s Nos. 5 and 22: to burn red flares near the wrecks of the *Brilliant* and *Sirius*.

C.M.B. No. 23: to mark the entrance to the harbour with a special flare if demanded by the *Vindictive*.

C.M.B.s Nos. 25 and 26: to escort the *Vindictive*, to mark the direction of the pier heads, and to attack the pier heads with torpedoes.

M.L.s Nos. 254 and 276: to rescue the crew of the *Vindictive*.

13 Motor launches: to make smoke screen.

¹ Lieutenant *A. E. P. Welman* was afloat in motor boat No. 22 as S.O. of C.M.B.s.

² See Map 23.

north-westerly breeze was just beginning to carry a sea mist towards the land. He knew that it would cover the corridor of clear water between the smoke screens to the east and west of the harbour mouth, and that in a few moments it would envelop the *Vindictive*. For a time he hoped that the *Vindictive* would escape it; and a minute or so later he heard a tremendous outburst of fire from the direction of the harbour, and thought that the block-ship had got in. He at once ordered the destroyers of the 32nd Division to throw star shells over the entrance, and to engage the enemy batteries with high-explosive shell.

The *Vindictive* was overtaken by the mist; Commander Godsall steamed towards the shore for thirteen minutes and then turned to the westward, for he could see nothing. Yet he must have been very near when he put his helm over; for a few minutes later (2.12) Lieutenant C. F. B. Bowlby, in one of the escorting motor boats (No. 26), sighted the eastern pier head and fired at it. The torpedo struck the bottom and exploded so near his boat that it damaged her badly. Lieutenant Bowlby drew out of a tornado of machine-gun and shrapnel fire with his launch nearly disabled.

Commander Godsall continued to steer through the fog in the greatest perplexity. After making to the westward for a short way he turned sixteen points to starboard; then, when he was certain that he had passed the harbour mouth, he turned westward again, and ordered motor boat No. 23—Lieutenant the Hon. C. E. R. Spencer—to light the million-candle-power flare. The light showed the pier heads about a cable away on the port hand. Commander Godsall put the helm hard a-starboard to enter; as the *Vindictive* began to swing, Lieutenant R. H. McBean, in motor-boat No. 25, sighted the pier heads and fired two more torpedoes at them. Both were seen to hit their mark and explode.

From the moment when the million-candle-power flare lit up the misty darkness and showed Commander Godsall the goal he was seeking, and the German gunners the target for which they were searching the resources of stratagem and cunning were exhausted. The action was now a sheer trial of strength and endurance between Commander Godsall and his enemies. The *Vindictive* was still turning under starboard helm when she became the focusing point for the fire of every German battery that could register on her. As she turned inside the pier heads, the bursting shells swept her upper-works and reduced them to scrap iron. The ship was still under starboard helm when Commander Godsall went outside the conning tower to get a better view. His intention

was to steady the ship on a course which would put her head on to the western bank, and then to manœuvre her across the channel with the assistance of the east-going tide. But almost as Commander Godsall left the conning tower a shell struck it and he fell dead; simultaneously the navigator, who alone could have righted the helm and steadied the ship in time, was struck down unconscious. The ship continued to run under starboard helm, and she was pointing away from the western bank when Lieutenant V. A. C. Crutchley took command. Before he could swing the *Vindictive* back, she grounded forward on the eastern side and the tide swept the stern away from the axis of the channel. After trying fruitlessly to work the after-part of the ship across the fairway, Lieutenant Crutchley ordered everybody to leave the engine-room and he then fired the sinking charges. When the *Vindictive* sank, she was lying very obliquely to the axis of the channel and was by no means blocking it.¹

The rescue launches (Nos. 254 and 276) came alongside with great difficulty; No. 254 had been struck by a shell which had killed the first lieutenant (Lieutenant G. Ross, R.N.V.R.) and had wounded the captain—Lieutenant G. H. Drummond, R.N.V.R.; No. 276 (Lieutenant R. Bourke, R.N.V.R.) was also hit, but her captain kept her alongside the *Vindictive* for as long as he could; just before he left her he found Lieutenant Sir John Alleyne and three survivors in the water clinging to an upturned skiff. They were all of them badly wounded and could not have survived many minutes longer.²

At half-past two, which was roughly the time when the operation was to be completed, the Vice-Admiral heard the gunfire die down. He knew, therefore, that the carefully thought out programme had been completed, but he could assume that the German commander at Ostend had, long ago, communicated with headquarters at Bruges, and that the destroyers at Zeebrugge might at any moment loom out through the mist, and make a resolute attack upon the expedition as it withdrew.³ A quarter of an hour after the gunfire had ceased, therefore, the *Warwick* and her division steamed slowly to the westward, on a course roughly parallel to the shore. The destroyer movements after the operation had been carefully devised to bring the division into the line along which the battered motor boats and launches would probably be retiring; and about half an hour after the

¹ See Map 24.

² The Germans subsequently found three unwounded men in the *Vindictive*.

³ The Flanders Flotilla was still in Germany; see ante, pp. 252, 267.

Warwick had been put on to her westerly course, the Vice-Admiral and the officers on the bridge saw that a distress signal was being flashed repeatedly from a signal lamp on the port hand. The *Warwick* stood towards it, and came up to motor launch No. 254, carrying the survivors from the *Vindictive*. There was not a moment to be lost, for the launch was obviously sinking, and most of the men on board would have sunk like stones. A mass of wounded and dying men lay on the fo'c'sle; Lieutenant Drummond crouched near the steering wheel, dazed and exhausted by loss of blood; his second in command lay dead beside him. In the fore part every man who could still move and work was bailing desperately. Lieutenant Crutchley had taken charge and was bailing and labouring with his men; even in the darkness and huddled confusion of living and dying men he seemed a commanding figure. By the time the last man was taken on board, dawn was coming up fast. The *Warwick* was so close inshore that the German batteries could have sunk her in a few minutes, but the mist was still thick and it covered her. The Vice-Admiral and his division now made away from the coast towards a gap in the barrage.

Admiral Keyes closely questioned Lieutenant Crutchley about the position of the *Vindictive*, and learned to his bitter regret that she was not blocking the channel. They were still talking together in the bridge cabin when a terrific detonation shook the *Warwick*; she had struck a mine, and most of the ship's after-part was shattered. The destroyer took a heavy list but righted later and kept afloat; the *Whirlwind* took her in tow; the *Velox* took off all the wounded and secured alongside the *Warwick*. If, at this moment, the enemy's destroyers had appeared, the crippled division would have been almost defenceless; if the mist had lifted, the enemy's batteries could have swept our destroyers with their shells. But the enemy's destroyers did not move, and the mist still covered the retirement. Towards seven o'clock the Vice-Admiral considered that he was far enough from the coast to break wireless silence, and ordered the Commodore to send reinforcements. All the available destroyers joined the Vice-Admiral at a quarter to eight, and by then the worst dangers of the retirement were past. The other rescue launch was also in safety; she had fifty-five holes in her hull, but Lieutenant Bourke reached the *Prince Eugene* during the morning watch.

The Admiralty staff waited anxiously through the night for news of the expedition; and at half-past five in the morning, the first telephone message came through from the

Chief of the Staff at Dover. He reported that the motor boats were returning, but that he could as yet give no news about the result. Nearly three hours later he telephoned again: the survivors from the *Vindictive* had just arrived, and he had seen them; they could give little account of what had happened for the time being, but Commander Hamilton Benn, M.P., R.N.V.R., the officer in charge of the motor launches, seemed certain that the *Vindictive* was between the piers but not blocking the channel. The Admiralty telegraphed this to the Commander-in-Chief; but to the public they issued a far more encouraging report; for at 10.45 the Assistant Chief Censor made the following announcement to the Press: "The operation designed to close the ports of Ostend and Zeebrugge was successfully completed last night when the obsolete cruiser H. M. S. *Vindictive* was sunk between the piers and across the entrance to Ostend harbour. . . ." This was an over-statement; and two hours later a further message came in from the Vice-Admiral to say that, as far as was then known, the wreck of the *Vindictive* was "taking up one-third of the fairway." The War Cabinet, to whom the operation was reported during the morning, took the view that whatever the results and consequences of the expedition might be, those who had penetrated the terrible system of fortifications that guarded Ostend, with such indifference to danger and suffering, had deserved well of the United Kingdom. On the motion of the Prime Minister a telegram expressing the gratitude of the Ministers of State was sent to Dover in the first part of the afternoon.

When Admiral Keyes landed at Dover (4.30 p.m.), he found that his report about the *Vindictive* blocking only a third of the fairway had been disregarded, and that the results of the expedition had been exaggerated in the official *communiqué*. He protested vigorously that the plain truth should be published and asked for permission to prepare a third expedition. Within a few days Admiral Keyes was therefore engaged in laying plans for another enterprise which he determined to control himself.

These two great operations against the Flanders ports were designed and approved as operations against the submarine campaign, and it is by their effect upon the campaign that they must first be judged. The effect was this. Previous to the operation about two submarines were entering or leaving the Flanders bases every day; during the week after the operation this figure was maintained; for eleven Flanders submarines went to sea, or returned, between April 24 and the end of the month. In May, there were fifty-six

entries and exits, so that the average figure of nearly two passages a day was maintained during the five weeks immediately subsequent to the operation. It was not, in fact, until June that there was any falling off, and then the decline was sharp, for only thirty-three submarines entered and left the Flanders bases during the month. This was partly due to a bombardment on June 9, which damaged the lock gates at Zeebrugge and put the lock out of action for five days, but in July, when the lock was clear and a channel had been dredged past the block-ships, the total number of entries and exits was only forty-four, a figure well below the average for April and May. From this it is clear that the number of submarines working from the Belgian ports fell off during the summer of 1918, and that the decline may have been considerable enough to reduce the intensity of submarine warfare in the Channel and the North Sea. But, as this decline only began five weeks after the expedition against Zeebrugge was over, it cannot be attributed to the blocking expeditions, and must be related to another cause. Submarine operations from Flanders declined during the summer of 1918 because the German High Naval command recalled a part of the flotilla to Germany during the month of June. This was done because the submarine commanders were reporting that the passage of the Dover Straits was becoming increasingly difficult and hazardous. But even though this was why the decision was taken, it is impossible to separate it from the obstructions laid in the Zeebrugge channel. If the patrol in the Dover Straits was so dangerous and difficult to pass, the German remedy was patent: a new succession of those destructive raids which their destroyer commanders had always conducted with such energy and precision. Yet the remedy was never attempted. Why? The explanation can only be that Zeebrugge was no longer as easy of access as a destroyer base must be if it is to be used as a starting and returning point for raiding forces. The stealthy exit, and rapid return of the raiders—which are the first necessities of such operations—were no longer possible.

This was far below expectations; are we, on that account, to conclude that the operations were no more than exhibitions of high courage? By no means; for success in war is not always measurable by objectives which have been won, or by purposes which have been achieved in whole or in part. The blocking expeditions were a sort of complement to the measures which Admiral Keyes had been executing with relentless vigour for five whole months, and no estimate of their success or failure would be complete without an accompanying

estimate of their contribution to the general war plan. Many weeks before the *Vindictive* burst through the last smoke screen, or the *Thetis* led the blockships up harbour, the patrols and minefields in the straits had given the enemy great anxiety: even Admiral Andreas Michelsen admits that the mines, the flares, the searchlights, and the patrol craft were an unpleasant surprise, and he is a writer who shows but little inclination to credit his enemies with either courage or persistence; his admissions are more significant than the tribute of a generous enemy. But if the enemy's first losses in the Straits of Dover were an ominous reminder that their unimpeded passages into the Channel were a thing of the past, their subsequent experience of the minefield and its patrol must have been even more distasteful. Nothing shook the efficacy of Admiral Keyes's measures, and they continued unabated and unmodified after the most destructive raid that had ever been executed in the Dover Straits. Then, after four and a half months of relentless counter-attack which inflicted regular, steady losses upon the Flanders submarines, a new onslaught, as violent and as sudden as the other was slow and methodical, burst upon the Germans with the force of a hurricane; and all these eruptions of energy were coming from an enemy who, according to the most careful forecasts of the German staff, ought long before to have been prostrate with exhaustion and famine. If those high German authorities who were responsible for the conduct of war made light of these accumulating evidences of a vast stock of unsuspected strength in their enemies, they cannot have been the far-sighted and experienced leaders we have always supposed them to be. The first, perhaps the greatest, achievement of those who planned and executed these blocking expeditions is, therefore, that they impressed the enemy with our power, our resources and our endurance at the very moment when that same enemy was gathering strength for what he believed would be our final overthrow.

So much for the effect upon the enemy; there were other consequences equally important.

The blocking expeditions were executed during weeks of intense national anxiety, for it was during those weeks that the British armies were yielding one position after another, before an onslaught that seemed irresistible. When anxiety was keenest, the nation was suddenly informed that a naval force had twice entered positions deemed impregnable, and had blocked two fortified harbours. Those who would appreciate the full force of this news should read the leading articles in the contemporary Press, and especially the reports

and comments in the cheap popular journals which express in all countries the sentiments of the mass of common men. A purely military success would never have been reported or received with so transforming an enthusiasm. The feeling aroused was not merely British pride in a British triumph—it spread like fire, from country to country, from continent to continent; it raised the captive Belgians from their dark oppression, it excited fierce joy in the most distant American training camp. But above all it brought about that prevision of victory which often in great conflicts appears to be the deciding force—a prevision which is not confined to the combatants, but comes suddenly to the whole attendant world as a revelation of the inevitable end. After more than three years of deadlocked and alternating war, our force both for attack and defence seemed to have been enfeebled to the last point of exhaustion, when beyond all expectation the great Service which had already borne and accomplished so much for the Allies was seen to rise like a giant from among the wounded and dying and to deliver a blow which resounded with power and significance—the blow of a people whose heart was still unbroken. *Possunt quia posse videntur*—the great achievement of Admiral Keyes and his force was this light in the darkest hour, this reinforcement of endurance with the consciousness of heroic strength, by which they nerved again the moral power for victory in five great nations and two continents.

2

The Submarine Campaign, May 1918

The lightening of the general gloom was apparent to all, for by this time the U-boat campaign was practically defeated. Since March shipping replacements had exceeded shipping losses; 13,962,819 tons of shipping had been available for service on April 30; 14,087,186 tons were available on May 31.

This gain in tonnage was made up partly by vessels transferred from foreign registers; but for the first time since unrestricted submarine warfare began, the tonnage of new British ships entered for service (194,247) exceeded the tonnage of vessels lost by enemy action (185,577). Moreover, the available shipping, which was now slowly increasing, was sufficient to sustain the tremendous military exertions of the Empire. During the last four weeks, 192,330 British officers and

men had been moved to and from the various theatres of war; 750,267 tons of military supplies had been carried to the British armies in France, 38,000 tons of stores and supplies had been delivered to the Allies. More than that, the transportation of the American armies was proceeding without a hitch and at great speed; during the same period 116,404 American officers and men, 1,914 animals and 20,221 tons of stores had been carried across the Atlantic. Every constituent part of our maritime resources was contributing to this immense material effort; the carrying space had been found, in spite of our losses at sea; and safe passage had been given to the men and stores in spite of the presence of from ten to fifteen submarines in the approach routes to the British Isles: British sea power was making its greatest exertion at its moment of greatest trial.

Although the enemy were not in possession of these figures, which gave us so much encouragement for the present and so much hope for the future, they were, by now, as well aware as we that the ocean convoy system had been the decisive manœuvre in the long struggle. Nobody can fix the exact moment at which the German staff became convinced of this; they themselves could hardly attach a date to their conclusions on the matter. It is truly surprising, however, that they made no attempt to shake or disturb the convoy system until nearly a year after its institution, that is, when the mischief done to the German plan of commerce destruction was beyond remedy. And, when delivered, the attack was feeble; it in no way resembled the systematic onslaught that Admiral Sims had anticipated in the previous year, an onslaught which he thought would be delivered with every vessel that the Germans could pass out on to the trade routes, and maintained with a persistence and fury proportionate to the issue. Instead of this a handful of submarines assembled in the western approach routes, and made what our authorities believed to have been the enemy's first concerted attempt to interfere with the convoys passing through the zone. This, as far as we know, was the only occasion on which the German submarine commanders endeavoured to breach that defensive system which was thwarting their operations, and the fortunes of their belated experiment are on that account worth following in detail.¹

By May 10 the first German concentration was complete: eight submarines were then inside the area; one was watching the bottle neck between the Smalls and the Irish coast, the remaining seven were distributed over the whole zone.

¹ See Maps 25, 26 and 27.

On that day nine convoys were passing through the danger area. The combined Rio and Sierra Leone convoy (HL 32 and HJL 1) was the one most threatened. It met its destroyer escort during the morning watch, and at five o'clock in the afternoon it was split into three sections: the west portion (five vessels), the troop transports (two vessels) and the east portion (ten vessels). Each one of these sections was menaced, more or less directly, by three operating submarines—*U 70*, *U 103* and *UB 72*—which by knowledge or luck had placed themselves across the convoy's line of advance. The outward convoy from Milford (OM 68), which left harbour during the afternoon, was also threatened by *UB 65*, then lurking off the Smalls. The Admiralty, who had roughly located this concentration during the day, sent out orders for keeping the Gibraltar convoy (HG 73) on a track that would carry to the westward of the three submarines; but they sent no warning or revised orders to the combined convoy, which continued its course. Throughout the whole twenty-four hours, however, there were no sinkings, nor was any one of the convoys attacked. The three sections of the combined convoy passed the three submarines during the first watch, and each was unconscious of the other's presence. The outgoing Milford convoy cleared *UB 65* and held on unmolested.

The following day also passed quietly until late in the afternoon. During the day the U-boats scattered considerably; and towards sunset all except *U 86* were fairly well away from the convoy tracks. This submarine, which had been engaged on a most unproductive cruise near the south of Ireland for days past, seems to have sighted the Gibraltar convoy (HG 73) some time during the afternoon, and to have closed it. In his original orders the convoy commodore had been instructed to detach the ships for the Bristol Channel when he reached the South Wales coast; during the previous day, in order to keep him clear of the U-boat concentration ahead of him, the Admiralty had ordered the convoy to hold straight on for the coast of Ireland, and to turn up towards the Smalls when he reached the 8th meridian. These revised orders contained no word about detaching the Bristol ships, and the commodore sent them away at six o'clock under the escort of two trawlers. One of them, the *San Andres*, was torpedoed by *U 86* nearly three hours later (see Plan). With the exception of this one accident the day passed quietly, and the procession of convoys filed past the watching submarines. Towards midnight—May 11/12—the German submarines had regrouped themselves: two boats—*UB 62* and *U 86*—were near on to the west of the St. George's Channel;

five others, *U 43*, *U 70*, *U 103*, *U 92* and *UB 72*, were making for the entrance to the Channel, and in the early hours of the morning two of them were sunk.

Towards the end of the middle watch H.M.S. *Olympic* was near the Scillies on a north-east course: she was one of the great transports employed in the North Atlantic for carrying the American army, and was at the time escorted by four American destroyers. At five minutes to four, when the dawn was just breaking, the look-out man reported a submarine on the starboard bow; it was *U 103*, which had been steering all night towards the mouth of the Channel. Captain Hayes put his helm hard aport and rammed the submarine before her captain had time to submerge. Further up Channel, *UB 72* was waylaid and sunk in Lyme Bay by British submarine *D 4*, at half-past four in the morning.

These two disasters left three submarines, *U 43*, *U 70* and *U 92*, cruising on or near the track of our convoys, and two of them delivered attacks during the course of the day. At half-past nine in the morning the slow Halifax convoy of thirty-five vessels (HS 38), moving in nine parallel columns, with an escort of eight destroyers and three sloops, ran into *U 70*. It would have been imagined that the submarine commander had an exceptional opportunity: it was a fine summer morning, the sea was smooth, and what wind there was blew from the west. The convoy covered a wide front, and should have been a good target: yet all the German could do was to fire two torpedoes, which both missed, at the rear ship of the starboard wing column, and then get out of the way. Later in the day (8.30 p.m.), the *Barima*, in the outward bound Falmouth convoy (OF 35), reported a torpedo attack, for which *U 43* may have been responsible; there was, however, some doubt whether an attack had actually been delivered or not.

The U-boat captains (May 12-15) seem to have been quite unable to ascertain what tracks the convoys were actually following; they knew that they must be passing through the zone they were watching; but their movements bear no trace whatever of a combined plan for discovering the exact places in which convoys could be met. For the next three days they were scattered all over the area, and not one of them so much as located one of the convoys. On the 15th the distribution of the U-boats was more promising: there were now eight boats in or near the convoy approach routes; three of them were exceptionally well placed. *U 92* and *U 70* were lying across the track of the combined Rio-Dakar convoy (HJD 5 and HD 33);

UC 56 was about thirty miles to the north of the coast of Brittany, steering towards Ushant on a course exactly parallel to that of the incoming Gibraltar convoy (HG 74). As far as can be ascertained, this UC-boat passed the whole convoy late in the afternoon, and was either unaware of its presence or unable to get near it: the escort commander and the convoy commodore had nothing to report when they reached harbour a day later. Yet it would have been imagined that the convoy could have been attacked successfully. It could only steam at seven and a half knots—a speed which gave a submarine commander exceptional opportunities of manœuvring to a good attacking position; its escort consisted of two destroyers and ten trawlers. The other convoy (HJD 5) passed the two submarines that were on its track in the same uneventful way: it was split into two sections at half-past three in the afternoon (see Plan), and each section must have been very near the two waiting U-boats. If eighteen months before two hypothetical cases of submarine attack had been constructed, and if the essential data of each case had been the positions of these convoys, the strength of their escorts and the positions of the watching boat upon the convoys' line of advance, then many an experienced naval officer would have said that the convoys would inevitably be discovered and attacked and would certainly suffer heavy losses. That would have been the orthodox answer to the tactical problem. Indeed, hardly any other answer would have been possible, for no naval officer, however far-sighted, could have foreseen the extraordinary and baffling power of evasion that a convoy in good formation possesses. In theory it should have been a bigger and more convenient target: in practice it was a will-o'-the-wisp.

There is no need to continue the narrative in detail; the concentration of U-boats on or near the convoy routes was at its greatest strength on May 17 and continued until May 25, when it was somewhat relaxed. The outcome was always the same; the initial situations at daybreak on each successive day seem often enough to promise exceptional opportunities to the U-boat captains; but the opportunities slip mysteriously away as the day goes by, and—more important—the steady uninterrupted flow of convoys slips past the U-boats at the same time. On one day only did the U-boat captains score anything that resembled a success. Early in the afternoon of the 17th, the commanding officer of *U 55* sank the steamship *Scholar*, leading ship of the port wing column of a Gibraltar convoy (HG 75). The convoy was, at the time, well protected, and the U-boat captain must have manœuvred

into a position right ahead of the formation, for the torpedo came across the front of the convoy. This occurred so rarely that it was undoubtedly a difficult feat of manœuvre. Nor did the U-boat captain's success end there. When he sank the *Scholar*, a combined convoy of six ships (HL 33 and HJ L2) was passing to the south of him. Just after two o'clock the escort captain in the *City of London* (Lieutenant-Commander Foote) received messages from HG 75 telling him that a submarine was about, and that a ship had just been torpedoed. He swerved his convoy to the eastward, but the submarine commander was too quick for him, and about a quarter of an hour later the *Denbigh Hall* was torpedoed and sunk. She, like the *Scholar*, was the leading ship of the port wing column; but on this occasion the shot was fired from the ship's port bow. Unquestionably these two successive attacks were delivered by a good seaman; but something more than good seamanship and courage were needed to redress the succession of failures. Since May 10 the U-boats had sunk and damaged only five vessels in what, a year before, had been their most productive zone: three of these ships had been in convoy, it is true, but during the same time 183 convoyed vessels had reached harbour safely, and 110 had been escorted outwards through the danger zone.

To the authorities responsible for the conduct of the campaign at sea, the failure of this U-boat concentration was no more than an incident in the victory at sea that had been an accomplished fact since the early months of the year. The Director of the Anti-Submarine Division reported the concentration in his monthly report, the French Naval Staff did the same, and no further attention was drawn to it. The matter was not thought important enough to deserve special comment, but when placed in historical perspective it assumes a rather sharper outline than was given to it in the contemporary records. The operations of the German submarines between May 10 and 25 were the most methodical and elaborate attempt that the German Staff had as yet made to interfere with the convoy system. The attacks on shipping in the Irish Sea and the Channel, begun in November 1917 and continued until the spring of the following year, had been made mainly against ships after they had dispersed, or whilst they were dispersing from convoy. The U-boat concentration in May was directed against the convoy system itself; its objective was the mass of shipping steaming in formation, and under escort through the zone of concentration. When its failure is related to other outstanding facts of the general position on land and sea, the extent of that failure becomes

apparent indeed. To all outward appearances the flow of German victories could neither be stemmed nor interrupted; for the German armies were still pressing their attacks upon the Allied fronts with alarming success. The British disasters in Picardy and Flanders had been followed by a disaster to the French armies on the Aisne. On May 27 the German armies burst the French front at Craonne and pressed on towards the Marne.

This was brilliant and spectacular; and if, when the public were told that the German armies were marching through towns that had been in French hands since the first months of the war, they had also been informed that, during the previous ten days, an exceptionally heavy concentration of German submarines had failed to interrupt the flow of shipping in the approach routes, they would, presumably, have thought that their attention had been drawn to an unimportant minor success in order to divert their minds from a great calamity. Is this the relative importance of the two incidents? Hardly, and for the following reason. By the end of May over seven hundred thousand American soldiers were under arms in France. They were not ready to give immediate relief to the shaken armies on the front; but they were assembling in such numbers and with such rapidity that the final conclusion of the great battles on the Western Front could no longer be doubtful. The concentration of U-boats in May 1918 had been directed against a system of defence which directly or indirectly was responsible for the transportation and maintenance of the enormous reserve which was massing behind the Allied fronts. Its failure was illustrative of the failure to interrupt the action of those forces which were slowly gathering strength and combining for the final overthrow of the Central Empires.

During this same month of May the German submarine attack upon the trade routes in the Eastern Atlantic came to an end. Since January it had been carried out by four large U-boats, and the zone of attack had been very large. At the end of January, Gansser in *U 156* was near Grand Canary; his cruise was coming to an end, and another large submarine under Commander Kolbe was just approaching the Canaries zone. Valentiner in *U 157* was far out in the Atlantic to the south of the Cape Verde Islands. He closed the west coast of Africa, and cruised slowly along it. He was off Grand Canary by the middle of March, when he also began his return journey.

Meanwhile, *U 155*, under Commander Eckelmann, had taken station further north. After cutting two cables off the

Tagus early in February, Eckelmann took his submarine to the west of Gibraltar, and later shifted his ground further to the westward, and cruised between the 15th and 20th meridians, whilst Kolbe, further south, hovered off the west coast of Africa, between southern Morocco and the Canaries.

There was a very great difference in the destruction carried out by each of these four U-boat commanders. Gansser sank 21,482, Valentiner 10,095, Kolbe 30,856 and Eckelmann 50,926 tons of shipping.¹

The German staff issued *communiqués* which accurately reported the tonnage destruction of all these U-boat commanders except Valentiner. They thought it best to keep silence about his poor performance; and stated only that he had sunk five steamers and two sailing ships and that the cargoes he had destroyed were particularly valuable. But thoughtful men on the German Naval Staff may have doubted seriously whether the total cost of any one of these long cruises, that is, the oil expenditure and the wastage of machinery, had been worth while. During the first six months of 1918 each operating U-boat in Home waters was destroying shipping at an average daily rate of 280 tons. Gansser's average daily yield was 190; Valentiner's 74, and Kolbe's 270. Eckelmann had the distinction of reaching a destruction figure which exceeded the figure of the ordinary U-boat in Home waters; but he had been assisted by the heavy tonnage of the ships he sank: his numerical yield, 0.15 ship per day, was very slightly above the average figure in Home waters (0.13). Eckelmann was, however, by far the most successful of the U-boat captains on the outer routes. Apart from his tonnage destruction, he had on two occasions contrived to locate a convoy and attack it, and in one case his attack was successful.² Yet even Eckelmann's achievements only emphasised the failure of these U-boat cruisers to effect anything of major importance. That failure is most emphatically recorded in the volume of trade which passed through their zones of operations unhindered. Between February and the middle of April five Rio, nine Dakar, nine Sierra Leone and nineteen Gibraltar convoys steamed through some part of the area that was being searched by these U-boat captains. Of the 597 ships in these convoys, one, the *Nirpura*, was sunk; it would be difficult to collect more convincing proof that the success or failure of submarine operations against commerce depends solely upon the system of defending trade. Those operations are successful only if the defensive system is wrongly conceived.

¹ See Map 28.

² S.S. *Nirpura* sunk west of the Burlings on April 16.

CHAPTER° VIII

THE MEDITERRANEAN. APRIL TO SEPTEMBER 1918

THE Germans opened their great assault upon the Western Front on March 21, and within a few days the British High Command was collecting reinforcements for the stricken armies from every part of the Empire. In the Mediterranean the troop movements were heavy. General Allenby was informed that he must at once send home the 52nd Division and the artillery of the 7th Indian Division. In addition to this, eight Yeomanry regiments were to be formed into machine-gun units and sent to France; and as soon as the 3rd Indian Division reached his front he was to send another British division to Marseilles. General Allenby answered that the 52nd Division would be ready to embark early in April and that he intended to send the 74th Division at once, without waiting for the Indian division which was to replace it.

The naval command in the Mediterranean had, therefore, to provide escort for safeguarding these exceptional troop movements during the first days of April. On the 4th, the first echelon left Alexandria in the *Kingstonian* and *Manitou*. It was many months since the enemy's submarine commanders had successfully attacked our transports; and in the Channel they now made no special concentration against the flow of reinforcements to the threatened front in Flanders. They appear, however, to have determined to make a more strenuous effort against the Mediterranean troop-carriers during these critical months. The *Kingstonian* was torpedoed on April 11, and was beached with great difficulty near the south-western corner of Sardinia. On the same day the second group of transports left Alexandria with the bulk of the 52nd Division under the escort of six Japanese destroyers. A German submarine was waiting for them outside Alexandria; her commander made an attack, but it was unsuccessful, and owing to the vigilance of the Japanese destroyer captains he was unable to deliver another. The first reinforcements were safely landed in Marseilles on the 13th and 17th of the month. Very few lives had been lost, when the *Kingstonian* was torpedoed,

so that the supply of troops to France had not been interrupted.

Meanwhile the forces for the barrage operations in the Straits of Cattaro were assembling fast, and on April 15 Commodore W. A. H. Kelly was ready to begin.¹ The actual dispositions of ships varied from day to day, but the constitution of the barrage itself was maintained without any great changes.² An outpost force of six submarines watched the approaches to Cattaro; to the south of them a force of destroyers patrolled a line drawn across the central part of the straits between point Samana, on the Albanian side, and Monopoli; by night they patrolled a line some twenty miles further to the south. A number of trawlers, fitted with hydrophones, occupied the narrowest part of the straits between Otranto and the coast to the south of Cape Linguetta; immediately to the south of them was what was called the main auxiliary patrol line of drifters and trawlers. It was thought that every passing submarine would be at least detected by the ships upon the first line that she crossed, and that from then onwards she would be pursued and harried without respite.³

Submarines were sighted and engaged by the first groups of ships on the barrage; but these encounters gave no promise whatever of being the opening skirmishes of a long and continuous action. The engagements reported were as brief and as unsatisfactory as those reported daily in any other theatre; there were the same opening shots, the same dropping of depth-charges, and the same hopeful but unsubstantiated reports of submarine destruction. Nothing sug-

¹ The Italians had agreed that the barrage forces should be under a British officer. Admiral Acton was now the Italian Commander-in-Chief at Taranto, and Admiral Cusani-Visconti at Brindisi.

² See Map 29.

³ OTRANTO BARRAGE FORCE, 1918.

| | 15 May. | 15 June. | 15 July. | 15 Sept. |
|-------------------------------|---------|----------|----------------|----------------|
| Destroyers (Brit. and French) | 27 | 31 | 27 (no French) | 31 (no French) |
| Submarines (Brit. and French) | 15 | 15 | 12 | 8 |
| Sloops (Kite Balloon) | 1 | 4 | 4 | 6 |
| Torpedo Boats | | | 3 | 4 |
| American S/M Chasers | | 30 | 36 | 36 |
| Hydrophone Trawlers | 18 | 18 | 38 | 38 |
| Trawlers | 18 | 20 | 14 | 14 |
| Drifters | 102 | 109 | 107 | 101 |
| Motor Launches | 40 | 40 | 40 | 41 |
| Yacht | 1 | 1 | 1 | 1 |

gested that the offensive operations upon which such very large forces were employed, and for which such tremendous preparations had been made, would be more successful in these narrow waters than elsewhere. The German submarine commanders indeed seemed able to maintain their ascendancy over the attacking forces. Further west, however, similar operations were slightly more successful. On April 17 Admiral Heathcoat Grant ordered such vessels as he could assemble for the purpose to occupy successive patrol lines near the Straits of Gibraltar, and four days later *UB 71* was sunk by motor launch No. 413 (Lieutenant J. S. Bell) whilst on her way to Pola to reinforce the Adriatic Flotilla.

Although the French and Italian High Naval Commands had given their approval to Admiral Calthorpe's plan of prolonged offensive operations in the Straits of Otranto, they had never lost faith in their own plan for placing a permanent net obstruction across the Straits. The net which had been tested during the last months of the previous year was of an English pattern, and both the French and Italian experts were convinced that its design was faulty. The best brains in the two Latin navies had continued to study the problem, and a week after the barrage forces moved to their stations the French began to lay a net between Fano Island and the Otranto coast line. Only a short section could be laid at a time, so that no results could be expected for some weeks. By the end of the month, however, two separate plans for barring the Straits of Otranto were in process of execution, and the Austrian naval command realised at once that the mass of light vessels now concentrated at the southern end of the Adriatic was an easy target for a raiding force. Before our new dispositions had been in operation for a week the barrage was attacked.

On the night of April 22, six destroyers were patrolling the centre of the Straits in the latitude of Missipezza rock. Their patrol line was thirty miles long, and was divided into three ten-mile beats. At the eastern end were the *Cimeterre* and *Alarm*; the *Comet* and *Torrens* were in the centre, the *Jackal* and *Hornet* were patrolling the western section. Each of these subdivisions reached the eastern extremity of the line allotted to them at ten minutes past nine and they turned westwards more or less simultaneously. After the *Jackal* and the *Hornet* had been on their westerly course for about a quarter of an hour they sighted five destroyers to the north of them steering about south, and within a couple of minutes both commanding officers realised that these were hostile, for they turned sharply to starboard and opened fire.

The British destroyers at once replied and turned through west to south in order to draw the enemy to the southward, in accordance with the standing orders.

The gunfire was immediately heard in the destroyers of the central beat, and Lieutenant-Commander H. D. Pridham-Wippell of the *Comet* turned towards it. Indeed the gun flashes were so bright and the firing so heavy that he felt certain the enemy's light cruisers were out. At 9.34, therefore, he reported to Brindisi that enemy cruisers were in sight; simultaneously Lieutenant-Commander A. M. Roberts of the *Jackal* reported that he was in touch with five enemy destroyers. All the light cruisers and destroyers in harbour were immediately ordered to raise steam.

Meanwhile the *Jackal* and the *Hornet*, which were very much outnumbered, were receiving severe punishment. The *Jackal* was hit twice and her mainmast was brought down; the *Hornet* became the focusing point for the fire of at least three destroyers and suffered terribly. She was hit by an entire salvo, which started fires in the forward shell-room and the foremost magazine: a cordite explosion killed or wounded nearly every man in the supply parties and all the 12-pounder gun crews. Another shell struck the fore-bridge and disabled the control officers; the mast was then shot down and the commanding officer was severely wounded in both arms. At that moment the tiller jammed, and the ship began to circle helplessly. To make matters worse, the wreckage from the fallen mast started both sirens; a continuous and strident hooting drowned every order and every sound but the detonations from the enemy's shells. By this time, however, the enemy had turned back and settled on a northerly course, with the *Jackal* in full pursuit.

Shortly after ten o'clock, Lieutenant-Commander Pridham-Wippell, who was leading his subdivision northward towards the gun flashes, was joined by the *Cimeterre* and the *Alarm*. A few minutes later the four destroyers sighted the *Hornet*; as they passed her she made a signal that she had suffered damage and was making for Valona.

All this time the *Jackal* was engaging the enemy as they retired northward, but the crisis of the action was over. The enemy destroyers were steadily drawing ahead, and the firing was becoming slower and more intermittent. The *Comet* and the remaining destroyers were sighted at ten minutes past ten, and the irregular stern chase was continued until after midnight; the pursuing destroyers were to the west of Cape Pali when they finally turned back.

It was impossible to say whether this reconnaissance was preliminary to a serious and concerted attack against the barrage; but, at the time, any sign of fleet activity was made significant by the news which was coming in from another theatre. The German Government had recently recognised the independence of the Ukraine; and as soon as they had made peace with the new republic, their forces began to occupy the country. The pretext was to protect it against invasion from Bolshevik Russia; but the military occupation was carried out so rapidly and systematically that it seemed as though the Ukrainian authorities were for the time being completely subjected, and that their independence was purely titular. On April 19, German forces entered the Crimea and marched against Sevastopol. The Allies knew that when they reached it, the Black Sea Fleet of old Imperial Russia would fall into their hands; and that our strategic distribution of battle squadrons in the Mediterranean would need drastic revision. A very serious question of policy was thus laid before the Allied Naval Council which assembled in Paris on April 26.

The Allied Admirals realised that, even with this new accession of strength, the enemy's naval forces in the Mediterranean would still be weaker than our own. The two Russian dreadnoughts, *Volya* and *Svobodnaya Rossiya*, were each of 23,700 tons; and if added to the Austrian dreadnought fleet of four "Szent-Istvan" (20,010), the total force was still inferior to the seven French dreadnoughts at Corfu (three "Lorraines," 23,177 tons; four "Courbets," 23,095). The four Italian dreadnoughts made the preponderance of force even greater. The Entente Powers were equally strong in pre-dreadnought battleships; for the French squadron of ten vessels of the "Vergniaud" and "Patrie" class was, in itself, a more powerful squadron than any the enemy could bring against it. The general position was, therefore, quite secure; the weakness only local. If the Russian Black Sea Fleet were re-equipped and manned from the German navy, it would be considerably stronger than the British Ægean Squadron immediately opposed to it, for the Anglo-French force of four battleships based at Mudros and Salonica (*Agamemnon*, *Lord Nelson*, *Verité* and *Patrie*) would be no match for the two Russian dreadnoughts and the three smaller vessels of the "Estafi" class, which the Germans would have at their disposal if they decided to make a sortie through the Dardanelles.

To readjust the forces was not in itself difficult. Any redistribution which gave the Admiral at Mudros a squadron with a striking power of thirty-two 12-inch guns would make

the situation safe. The French High Naval Command were quite ready to send a reinforcement of six battleships to Mudros; but they claimed that their battle squadron at Corfu ought then to be strengthened by at least four Italian dreadnoughts. This reinforcement of the Corfu Fleet was, in their opinion, highly necessary. If the Austrian fleet should ever make a serious sortie, either to break up the barrage or to join hands with a squadron from the Black Sea, then the forces opposing it ought, if possible, to be in overwhelming strength. A French fleet weakened by detaching six modern battleships to the eastern Mediterranean might not be strong enough to force a really decisive action. It was not sufficient that the Italian dreadnoughts should be ready to assist if assistance were asked for; they ought to be trained and practised with the French fleet if the Commander-in-Chief at Corfu was to be ready to deal promptly with an extreme emergency. The French view was strongly supported by the British and American representatives, who stated that, when the American squadrons arrived at Scapa, the British methods of signalling and fire control had at once been adopted in American ships, not because the United States officers thought them better, but because they realised that if a fleet is to be an efficient fighting force, it must be trained on a uniform system.

But the Italian High Command had no wish to impose a similar self-denying ordinance upon their battle fleet. Admiral Thaon di Revel stated in reply, that although he entirely agreed that the *Ægean* Squadron ought to be reinforced, he did not see any reason for redistributing the battle squadrons in the Adriatic. The contingencies against which the Allies were making provision were too distant. He did not believe that the Russian fleet would be ready to make a sortie for many months, and he was even more sceptical about a serious move by the Austrian fleet. The Council therefore dissolved with the main question settled; but with certain derivative questions undecided, since it was still uncertain from what sources the light cruisers and destroyers for the reinforced *Ægean* battle fleet would be drawn. The Italians were convinced that they would not be justified in releasing the British Government from the obligations imposed by the Naval Convention of 1915. In their opinion the naval reinforcements supplied to Italy under the Agreement were as necessary to the national security as on the day when the instrument was signed.

The Italians, moreover, had right on their side when they maintained that the Allies were taking more elaborate

precautions than the situation called for. The German troops were approaching Sevastopol whilst the Allied Council was deliberating; but the Russian Black Sea Fleet was, as yet, far from captured. As the Germans marched towards the town, the Russian sailors begged Admiral Sablin—who had left the fleet—to return to his old command. He did so, and steamed away to Novorossisk on April 30 with the two dreadnought battleships and about fifteen destroyers.¹ When the Germans took possession of the town on May 2, they found three pre-dreadnought and three much older battleships in the harbour, together with the old cruisers *Pamyat Merkuriiya*, *Ochakov* and the old Turkish cruiser *Medjidieh*. The most powerful ships of the squadron had therefore escaped them. Even the older, weaker ships that had fallen under German control were by no means German property. By the treaty of Brest-Litovsk the Germans had the right to disarm them, but no more; and the German authorities had no intention of raising new difficulties for themselves in Russia by violating a treaty which they were anxious to see executed with the least possible delay and friction.

At the time, however, when so little was known about the relations between Berlin, Moscow and the new Ukrainian State, it was considered prudent to ignore everything but the bare facts of the military position, and to assume that as the German armies were in the Crimea, the Russian Black Sea Fleet would soon be a German naval squadron. The high military authorities took as serious a view of the resulting position as the admirals themselves. During a meeting held at Abbeville on May 1, the Supreme War Council passed a resolution in which they urged the Italian Government to agree to the redistribution of naval force demanded by the French navy.

By now the forces on the mobile barrage had been operating for nearly a fortnight, and the results were by no means promising. The Mediterranean staff, who examined and analysed the reports with the greatest care, came to the conclusion that submarines had been heard through hydrophones on twelve occasions, and sighted on thirteen. On five occasions only had the patrol craft been able to fire their guns or to drop depth charges. No in-going or out-going submarine had been sunk. These figures meant, therefore, that in five cases out of twenty-five a submarine commander would be annoyed or slightly inconvenienced whilst he passed through the Straits. The shipping losses for the

¹ See Hermann Lorey, p. 362.

month were not appreciably diminished, and the submarine attack upon the transports moving between Alexandria and Marseilles was continued with considerable success.

Our reinforcements for France were still being hurried across the Mediterranean. On May 1 seven transports left Alexandria with the supernumeraries of the 52nd Division and the bulk of the 74th; two days later five more sailed with the remaining formations. Two of these transports—the *Omrah* and the *Pancras*—were torpedoed during their return voyages, so that during the course of one month the German submarine commanders reduced the transport fleet in the Mediterranean by three ships.¹ Their successes against these purely military targets were still further emphasised by the torpedoing of the destroyer *Phœnix* towards the middle of the month. She was the first British ship lost on the barrage; and her loss, occurring at such a time and in such a place, was an ugly reminder that our naval counter-offensive was, as yet, not so much an attack upon the enemy as the exposure of more forces to the enemy's attack.

The American naval authorities had always advocated a more embracing and comprehensive counter-attack than could be undertaken by a special concentration of destroyers and patrol craft; but as their plan could only be executed by naval and military forces acting in conjunction, it was referred to a joint committee of Allied experts who met in Rome on May 15.

The plan laid before the experts was bold and comprehensive. By land Cattaro was supplied along a poor coastal road and a light mountain railway; as these communications were insufficient for the needs of an advanced naval base, the sea route between Cattaro and the bigger northern ports was a very important line of supply. If it were severed, and if at the same time the land communications of the Austrian base were made precarious by continuous raiding, the American staff believed that Cattaro would be almost untenable. Their plan was, therefore, to seize the Sabbioncello peninsula to the north of Cattaro and establish a fortified line across the isthmus. Simultaneously Curzola was to be carried, and a defended naval base established in the anchorage between the island and the peninsula. The naval forces stationed there would establish a strong patrol and

¹ The transports sunk or put out of action by submarine were :

Kingstonian, April 11, beached.

Pancras, May 3, reached port, damaged.

Omrah, May 12, sunk.

Leasowe Castle, May 26, sunk.

stop all traffic between Cattaro and the north. The military forces of occupation would issue from their fortified lines, at chosen moments, and raid the railway which comes nearest to the coast-line opposite Sabbioncello. This, however, was only the first part of the plan. The occupation of Sabbioncello and Curzola would be followed by the occupation of the neighbouring islands: Lagosta, Meleda, Cazza, Lesina, Pelagosa and Lissa, and an immense mine barrage laid across the Adriatic from Gargano Head to Curzola Island.

The joint committee who examined this plan were only called upon to report as to its feasibility, and the forces that would be required if the Allied High Commands decided to execute it. They reported that the islands could be carried and held by a force of about 30,000 men; but that the naval forces stationed at the base ought to be as powerful as the whole Austrian fleet. This was a point which the British representatives thought most important. If only an advanced squadron of light craft were stationed at Sabbioncello, the battle fleet at Corfu would be "continually rushing to sea at short notice," and the advanced force itself would have to be kept constantly ready. The British delegates were, however, entirely convinced—more so than the committee as a whole—that the plan, if executed, would give all the results that the Americans claimed. They endorsed the American opinion that the laying of the deep minefield and the seizing of the Sabbioncello base would practically isolate Cattaro.

There were, however, strong objections to the plan. It would involve great alteration in the existing system of commands. The battle squadron at Sabbioncello would have to be a combined Franco-Italian force, for whilst the committee was sitting, the French were making the last arrangements for sending reinforcements to the Ægean from Corfu. Four French submarines reached Mudros on June 5; they were followed by the battleships *Diderot*, *Mirabeau* and *Vergniaud* and six destroyers under the command of Vice-Admiral Darrieus. This additional strength made the forces in the eastern Mediterranean sufficiently powerful to deal with any sortie by the Black Sea Fleet, which had recently fallen into German hands; but it also raised a delicate question of local naval pre-eminence. The French had long ago agreed that the entrance to the Dardanelles should be a zone under British command; they had now sent into it an officer of higher rank than Rear-Admiral Lambert.¹ Indeed they were compelled to do so; for they had been

¹ Appointed to succeed Rear-Admiral Hayes-Sadler, February 24, 1918.

invited to assist us with a battleship force, which in the French service would normally be commanded by a Vice-Admiral. The difficulties of the position were, however, considerably relieved by the French High Command, who instructed Admiral Darrieus that he was to command the French squadron, but not the Allied naval forces as a whole. Admiral Lambert was still to administer the zone. This arrangement, however, would have left Admiral Darrieus with no control whatever over the two British battleships which would be so important a part of his command if the Black Sea Fleet ever made a sortie. The French orders were, therefore, supplemented by a British order to the Commander-in-Chief, telling him that Admiral Lambert was to employ and station the British forces as the French Admiral desired.

But these elaborate precautions were being taken against an imaginary danger. Admiral von Rebeur-Paschwitz had gone to Sevastopol in the *Goeben* and put her in dock; his Government had come to an agreement with the Soviet authorities about the Black Sea Fleet. The dreadnoughts at Novorossisk under Admiral Sablin were to be brought back and disarmed, but the fleet, as a whole, was to be treated as Russian property, and returned to the Moscow authorities at the end of the war.¹ In the meantime, they would be used for peaceful purposes, such as minesweeping and patrolling, and in case of pressing necessity might be put into full commission. When this arrangement was notified to them, the Russian sailors in Novorossisk destroyed the dreadnought *Svobodnaya Rossiya*, and Admiral Sablin went ashore. Captain Tichmenew brought the *Volya* and six destroyers to Sevastopol on June 19, and placed them in the hands of the German disarmament commission. The result of the transaction was, therefore, that one dreadnought and six old battleships came under German control. The Germans interpreted their agreement with the Soviet authorities very freely, and used the *Pamyat Merkuriiya* as a U-boat depot ship, but for the time being they made no attempt whatever to create a fighting squadron out of the battleships and cruisers.

But the Allied admirals, who were not aware of these facts, still thought the reorganisation of the commands so important that they laid the matter before the Supreme War Council, when it assembled at the Trianon, on June 1, under the presidency of Monsieur Clemenceau. The French and British admirals repeated all that they had said previously — about the importance of concentrating a Franco-Italian

¹ See Hermann Lorey, *op. cit.*, pp. 365, 369.

battle fleet at Corfu. Admiral di Revel repeated all his objections and argued with great force that a sortie by the Austrian fleet was now more unlikely than ever. There was thus no unity in the contentions laid before the Council, and M. Clemenceau stated that as the technical experts disagreed so radically, the question must be treated as a question of high policy and settled by the heads of Governments. The discussions between the Allied premiers terminated in a rather vague proposal to appoint an Allied commander-in-chief to the Mediterranean. Later, Lord Jellicoe was suggested. But the proposal came to nothing, and the intricate system of commands was not altered.

Meanwhile the barrage forces had been operating at full complement for more than a month, with great energy but to no useful purpose. There was the same record of submarines sighted and chased and the same record of submarines proceeding on their way unmolested. During April and May there had been well over fifty passages of submarines through the straits and on practically every occasion they had been sighted or detected. But there had only been fourteen attacks and only one submarine had been sunk, so that the barrage had proved itself little but an elaborately organised observation post. A submarine's chances of escape were about 55 to 1 in her favour. Nor was there any trustworthy indication that the enemy's attacks upon commercial traffic were in any way affected.¹ Indeed there were grounds for supposing that the enemy was keeping a greater number of submarines at sea; for the sinkings were exceptionally heavy,² and the submarine attacks upon the military transports had reduced them by yet another ship, the *Leasowe Castle*. The barrage forces were, moreover, conducting their fruitless operations at growing risk to themselves. Early in June, the Austrian Naval Staff determined to raid the masses of light forces which they knew to be exposed to attack in the southern Adriatic; and at some time on June 9 two dreadnoughts from the Pola Battle Squadron put to sea. The enemy gave no indications of their departure, and but for an extraordinary chance would probably have reached the barrage line in overwhelming strength during the first watch on the following day. In order to keep his movements as secret as possible, the Austrian Admiral steered south through the Dalmatian Archipelago, and just before dawn on June 10 his squadron was off Premuda. By the merest accident, two Italian motor boats were across his track, for at the time

¹ See Appendix C—Submarine Warfare on the Otranto Barrage.

² See Appendix C—Submarine Warfare in the Mediterranean.

Commander Luigi Rizzo and another Italian officer were cruising off the northern islands. The Italians were about to turn for home when they sighted heavy clouds of smoke to the north of them. After waiting for some moments, Rizzo and his colleague realised that battleships were approaching, and determined to attack them. It was a decision which only men of desperate courage could make, for the motor boats could only do twenty knots through the water, and could therefore be run down in a few minutes by the Austrian destroyers on the battleship screen. Dawn was nearly breaking when the Italian motor boats rushed fearlessly against the Austrian squadron. Rizzo hit the *Szent-Istvan* with two torpedoes and she sank; his colleague twice missed the *Tegetthoff* by a tantalisingly narrow margin; both escaped by dropping a number of depth-charges which exploded as the pursuing torpedo boats steamed over them.

The *Szent-Istvan* was the only dreadnought battleship sunk in action during the war; she was destroyed by the puniest opponent that could have been sent against her—a mere boat with only sufficient buoyancy to carry a large internal combustion engine and a torpedo dropping gear—a craft so frail, so lilliputian, that she had been towed to her cruising ground by a larger vessel.

This act of high courage and its extraordinary results were reported at the Allied Naval Council which assembled in London on the following day. The Admirals were convinced that the Austrians had determined to raid the barrage because it was endangering their submarines. This, however, was an assumption which the known facts hardly substantiated. Since the forces on the barrage had started their operations, they had seen or heard submarines on fifty-eight occasions, and had attacked them upon fourteen. One submarine had been sunk, and upon the remaining forty-three occasions the U-boat commander had continued upon his way unmolested.¹ During this same period the submarines had destroyed nearly as much shipping as they had done a year previously. As these were the dominating facts of the situation, it would surely have been more logical to conclude that the barrage forces were not seriously endangering enemy submarines, but that they were exposing themselves to grave danger which only an extraordinary chance and the valour of two Italian officers had averted.

But as these were their convictions, it is not surprising that the Allied Admirals continued to discuss questions arising out of the administration and disposal of the barrage

¹ See Appendix C—Submarine Warfare on the Otranto Barrage.

forces. The redistribution of forces was completed, for six French battleships were now concentrated at Mudros under Vice-Admiral Darrieus. But the Anglo-French Squadron, though powerful in itself, was very weak in light craft; and Admiral de Bon invited the Council to decide from what sources a proper allocation of light cruisers and destroyers should be drawn. His own suggestion was that they should be taken from the barrage, and that ten French destroyers now working under Commodore Kelly should be sent at once to Mudros. This, however, was only part of the difficulty. Admiral Gauchet at Corfu would need reinforcements of light cruisers and destroyers if the Austrian fleet were to be dealt with. Should he not, therefore, be given freedom to use the British light cruisers and destroyers working on the barrage under Commodore Kelly if an emergency arose? These suggestions raised another of those intricate and delicate questions which were liable to embarrass a mixed command. Commodore Kelly was under the naval jurisdiction of the Italian Commander-in-Chief; but the operations for which he was responsible had been left so entirely in his hands that the Italians were ready to grant that the withdrawal of the ten French destroyers was a matter for the British authorities to settle. If they agreed, the Italian staff would raise no objections. But they were not prepared to consider any suggestion that the British light cruisers should be transferred, even temporarily, to Admiral Gauchet's command. Admiral de Bon gave an undertaking that the French commander would not disturb existing arrangements and would only summon the British light cruisers to his flag if an Austrian sortie was imminent. The Italian representative answered that they had been lent to Italy by virtue of a written Convention, and that he was sure his Government would never agree to any alteration in it. The Italian High Naval Command would consent to Admiral Gauchet's reinforcement by twenty-seven British destroyers in a real emergency; but they, not he, must be satisfied that the emergency had arisen and was pressing. The Council, by the rules of their constitution, had to be unanimously agreed before any executive decision could be taken, and as the Italians stood firmly to their contention, the only decision taken was that ten French destroyers should be sent to Mudros without delay. The American plan of operations against Sabbioncello was found to be impracticable for the time being. The Council therefore decided to weaken the barrage forces in order to provide against a distant contingency; they did not consider whether

those forces were really impeding the operations of any submarines, or whether they might do so if they were put to a different employment. Statistics, if they proved anything, proved that this was the strategical problem of the moment. The Black Sea Fleet might become formidable later; the enemy submarines were actually so. Their operations were the immediate and urgent danger.

Fortunately, however, that danger was now on the wane; whilst the Council were discussing these questions of high naval policy, the officers in charge of mercantile shipping had devised a plan for making the convoy system more comprehensive; four hundred more sailings were escorted than in the previous month, and by then the total number of convoy routes had been increased to eighteen.¹ The consequence of this gradual development of the convoy system was that each escorted ship was given armed protection for a longer period.

The effects of this progressive reorganisation were first felt during the month of June, when sinkings were reduced by one half. The dangerous figures of the previous month fell at once to the reassuring totals of twenty-four ships sunk and five damaged, and of seventy-eight thousand tons of shipping sunk and damaged. This was due to no relaxation on the part of the enemy. They had not been able to maintain quite as many submarines at sea as during the previous month; but the total number of days spent by submarines on cruise—the figure which gave the truest measure of the enemy's exertion—was not below the average.

¹LOCAL CONVOYS IN THE MEDITERRANEAN.

| November 1917 | March 1918 | June 1918 |
|---------------------|-----------------------|--------------------|
| Bizerta-Alexandria. | Bizerta-Alexandria. | Bizerta-Malta. |
| Bizerta-Malta-Milo. | Bizerta-Malta-Milo. | Gibraltar-Oran. |
| Milo-Alexandria. | Marseilles-Bizerta. | Gibraltar-Spain. |
| Marseilles-Bizerta. | Marseilles-Algiers. | Spain-Cette. |
| Marseilles-Algiers. | Gibraltar-Genoa. | Cette-Marseilles. |
| Bizerta-Corfu. | Gibraltar-Bizerta. | Marseilles-Genoa. |
| Gibraltar-Oran. | Malta-Alexandria. | Genoa-Naples. |
| | Alexandria-Port Said. | Naples-Sicily. |
| | Milo-Port Said. | Sicily-Bizerta. |
| | Milo-Salonica. | Bizerta-Bona. |
| | Oran-Marseilles. | Bizerta-France. |
| | | Algiers-Oran. |
| | | Algiers-France. |
| | | Malta-Egypt-Corfu- |
| | | Sicily-Milo. |
| | | Egypt-Milo. |
| | | Milo-Aegean. |
| | | Milo-Corfu. |
| | | Corfu-Patras. |

They had expended the same amount of oil, machinery, courage, cruelty, ingenuity and labour in destroying seventy-eight thousand tons of shipping as they had in sinking one hundred and seventy-six thousand a few months previously. The setback was final: the enemy never restored the position by a counter-attack or a special exertion. It can therefore be said that during June the naval campaign in the Mediterranean ended in an Allied victory second in importance only to the victory in Home waters. Never in the history of warfare has a great victory been reported with so little clamour and emotion. The figures of shipping losses which recorded the achievement were printed in a few statistical returns; those returns were circulated to the persons who were entitled to read them, and that was all. The reason is that nobody could say that the victory was won on a particular day or that it was connected with a particular event in the daily succession of events at sea. There is nothing by which to remember it. It was, moreover, the outcome of a vast composite exertion, in which the Allied admirals of the Commission de Malte, the officers of the subordinate committees, and the officers and men at sea conjointly contributed. No single individual had a right to say *quorum pars magna fui* and none claimed the right. The splendour of the achievement cast an equal lustre upon all.

This dateless victory at sea was decisive according to the strictest definitions of decisive victory. Shipping losses rose slightly in the following month of July: they fell again in August to an even lower figure than that of July; and they were still falling in September, when the Allied Naval Council assembled in Paris.¹

The Franco-Italian net barrage was, by now, nearly completed, and one submarine—*UB 53*—had been caught and destroyed in it. The French and Italian Admirals considered that the obstruction they had laid ought to be supplemented by deep minefields further north, and authoritative naval opinion in Great Britain seems to have supported their view. Projects for laying deep minefields on the model of the Northern barrage were, at this time, the most important items in the general war plan. The American staff desired to lay them in all the narrow parts of the *Ægean* and in the central part of the Mediterranean, between Sicily and Africa. Commodore G. H. Baird,² who was now in charge of the

¹ September 13.

² Appointed Director of Shipping Movements, Mediterranean, April 6, 1918. Previously to Commodore Baird's appointment the convoy organisation had been under the control of Admiral Fergusson, the British Admiral of Patrols.

convoy organisation, showed, in an extremely able paper, that it would be most dangerous to lay a minefield right across the track of the most important convoy routes in the Mediterranean. The plan was therefore dropped; but the major project of laying barrages in the southern Adriatic and off the Dardanelles was approved in principle. Then whilst the Council was making its final decisions, a sudden and surprising victory on land gave a new direction to the course of operations at sea.

On September 15 General Franchet d'Esperey opened his assault upon the Bulgarian army. Within a few days the Bulgar front was breached and the road to Sofia was open to the Allies. On September 26 a delegation of Bulgarian officers entered General Milne's lines under a flag of truce to sue for an armistice. Their instructions were somewhat peculiar; for they bore a message to the British Commander-in-Chief, who was asked to act as mediator between the Bulgarian army representatives and General Franchet d'Esperey. General Milne sent the Bulgarians on to the French Headquarters, but did not accompany them himself. At four o'clock in the morning of September 30 the French authorities telegraphed to him that an armistice had been signed, and that hostilities were to cease at noon on that day. Two days later General Milne learned, through London, that the Bulgarians had agreed to demobilise their army, to evacuate those parts of Greece and Serbia which they still occupied, and to place their ports and railways at the disposal of the Allied armies. The fortified ring which encircled the Central Powers was broken; the roads and railways which lay behind the breach led straight to the capitals of three Empires.

CHAPTER IX

RUSSIA¹

THE onerous task of supplying Russia with coal and munitions was rendered doubly difficult by the fact that Archangel, the only port of access in Europe, was ice-bound from November to May. Nevertheless, during the summer of 1916 over six hundred steamers—roughly four a day—had arrived, bringing a million tons of coal and a million and a half tons of munitions, food and other materials. A vigorous effort was being made to increase the rate of supply. At the extreme north of the Murman Province, where a branch of the Gulf Stream keeps the Kola Inlet free from fixed ice, a port was being constructed, and from it a railway was being laid to connect it with Petrograd. This was a difficult undertaking in a land of river, lake and marsh. Wood could be supplied from local resources for the permanent way and the innumerable bridges; but all the railway metal and apparatus had to be brought by sea from England. Not till the end of 1916 was this line complete; in the meantime the only communication from the Kola Inlet to the interior was by road. For the transport of ammunition and light articles a large number of reindeer were available, and the endless stream of reindeer sleighs winding over the snowy plains of Lapland was one of the most picturesque episodes in the war.

At the end of the summer of 1916 the German submarine attack on shipping was extended to the Arctic Ocean, and in the last four days of September ten Norwegian steamers bound from or to Archangel were sunk between the North Cape and the entrance to the White Sea. Before the end of the season at least five German submarines had made cruises in the approach to the White Sea. One of them, *U 56*, was attacked on November 2 by four Russian patrol vessels,

¹ The present chapter is a narrative of the operations in North Russia in which British naval forces were directly or indirectly engaged, and a description of any local conditions which affected the conduct of those operations. No attempt has been made to describe the discussions and negotiations between the Entente Powers which occasioned the expedition to North Russia, and the retention of large forces in that theatre.

including the destroyer *Grozovoi*, near Vardö. The *U 56* had on board the crew of the Norwegian s.s. *Ivanhoe*, which she had sunk, and landed them on the 3rd, but subsequently she herself sank, owing to damage received in the action. That the remainder should have escaped without serious attack is not remarkable. The British forces and the few Russian vessels acting under British directions had 630 miles of route to guard and keep clear from mines, while the submarines were free to attack at any point. They operated mainly at the Norwegian end of the route: there they sank twenty-four vessels, mostly Norwegians bound to or from Archangel. In November the port itself froze, and all transport by sea came to an end. The British naval force was withdrawn to England, except a few vessels left in Kola Inlet. Commodore Kemp, the British Senior Naval Officer, had his headquarters on board one of the steamers frozen in at Archangel, where he was better able to keep in touch with the Embassy and the Russian authorities.

Before the ice at Archangel melted a profound change came over the political situation in Russia. A revolution broke out in March 1917; the Tsar abdicated and the Government passed to the Duma, which appointed a Committee representative of all parties except the most extreme. Of this Committee, Kerenski, a young lawyer gifted with extraordinary eloquence, soon became a leading member. The efforts of this provisional Government to maintain order were consistently undermined by the extremists, who called to themselves delegates representing each a thousand workmen or soldiers and, forming a *Soviet*,¹ issued manifestos to the people and troops. The first of these, known as Prikaz No. 1, published on March 14, ordered the Army and Navy to cease saluting officers, from whom all disciplinary powers were taken, and to form committees among themselves to manage their own affairs.

The result was a disorderly demobilisation. The Russian soldier did not know for what or for whom he was now enduring the miseries of war. Before the revolution he had been fighting for the Tsar, who personified Russia to him. Now that the Tsar had gone, Russia to the soldier was represented by his own small village; and men, tired of the conditions at the front and no longer under discipline, slipped away in thousands to seek their homes.

In the navy the demoralisation took a more criminal shape. The seamen set to work to get rid of their officers. In the course of a few days two hundred, including many of

¹ "Soviet" means Council.

high rank, were murdered, often with circumstances of brutal cruelty; three hundred more were imprisoned. A committee of sailors took nominal charge of the affairs of the fleet and appointed some of the remaining officers to carry out their instructions; but order and discipline were at an end. The danger to Russia from this crumbling of her defences was at first not fatal. So long as the Baltic remained frozen, the German navy could reap little advantage from the cessation of organised resistance. But when the summer came Riga and its sea communications fell to the enemy; Russia's right flank was turned; and Petrograd itself was within reach of the victors.

At an inter-Allied conference held in Petrograd shortly before the fall of the Tsar, Lord Milner had discussed the supply arrangements for the 1917 season, and the Allies had consented to land three and a half million tons of munitions, coal and other essential materials at Archangel and at Murmansk, the new port in Kola Inlet. But the inefficiency of the Provisional Government and the growing interference of the Soviet in national affairs of the highest importance soon made the Allies doubtful of the wisdom of supplying Russia with military stores from their own insufficient stocks, for it appeared more and more probable that the munitions might eventually be captured or handed over to the Germans. But Kerenski, who was confident that the power of the Soviet would die away from natural causes, repeatedly urged the fulfilment of the contract for supplies; and for fear lest Russia should have an excuse for making a separate peace, fresh supply ships were sent to Archangel as soon as the ice broke.

The Germans, beyond consolidating their position at Riga and capturing the islands at the entrance to the gulf, made no direct onslaught on the Russian armies, but it was clear from the beginning that they meant to include the Archangel route in their unrestricted attack upon shipping.

On the White Sea Station itself vessels were collected into convoys and escorted whenever possible, the first of these convoys consisting of eight ships escorted on June 5 by five destroyers from Kola Inlet as far as the offing of Iokanski, half-way between Murmansk and Archangel. At the beginning of July ships from England were directed straight from the Arctic into Iokanski, and thence despatched in convoys to Archangel. It had been arranged that naval operations in the White Sea itself, such as sweeping and escorting convoys, should be done by the Russian navy; but in practice it was soon found that, with some honourable exceptions,

Russian sailors were disinclined for warlike operations or cruising of any kind. Consequently all the work fell upon the small British squadron and the few Russian vessels which were willing to help. Kerenski, now Minister for the navy and the army as well as head of the Government, had every intention of continuing the war against Germany, though he would not restore the former discipline, for fear the army should become an agent in a Tsarist counter-revolution. He believed that by speeches to the troops he could stir up sufficient enthusiasm for an attack on the German positions, and he demanded an increased supply of munitions from the Allies to enable the operations to have some chance of success.

Throughout the summer vessels continued to arrive at Archangel and the other entry ports, where stores of the utmost military value accumulated in heaps, waiting often in vain for the Russians to take them away; for the prevailing lack of order was felt in the transport system as well as everywhere else. Throughout that season, in spite of the unsettled state of Russia and the doubts as to her ultimate good faith, the Allies, in the height of the German unrestricted submarine campaign, managed to land in Russia over two million tons of military stores.¹

At the end of the 1917 season one man of war, the little light cruiser *Iphigenia*, remained to be frozen in at Archangel, where Admiral Kemp and the transport office staff proposed to remain. But as the winter hardened, the activities of the Soviet increased in vigour and the political condition of Russia became more and more confused. There arose a spirit of antagonism to the Allies; it became possible that the British community would have to stand a Russian attack. Since the *Iphigenia*, if alone, was capable of only a feeble resistance, and it was not possible to despatch suitable vessels to reinforce her while passage through the ice was still practicable, the War Cabinet decided to withdraw her and the whole naval personnel from Archangel to Murmansk. She arrived in Kola Inlet in the middle of December, having seen yet another revolution in disordered Russia.

Kerenski's Government, never stable, had tottered and fallen. On November 7 the Military Revolutionary Committee seized Petrograd and transferred the Government to the All Russian Congress of the Soviets of Workmen, Soldiers and Peasant Delegates. The principal men in this congress were Lenin, First Commissary, and Trotsky, Commissary for Foreign Affairs. Kerenski had hoped by his eloquence to

¹ Fayle: *Seaborne Trade*, Vol. III., p. 239.

make the Russian army continue the war against Germany. The new leaders had no such intention. To them the war was merely one of the methods by which the rulers of the nations exploited their peoples. They were convinced that the world was weary of war, and that if they showed the way, the suffering millions in every country would imitate Russia and lay down their arms. On November 21 they sent out by wireless a message to all the nations at war urging an immediate armistice for the conclusion of a "democratic peace." This was defined as "a peace without annexations or indemnities, based upon the principle of the freedom of each nation to determine for itself the nature of its own development." A letter to the same effect was sent to all the representatives of the Allies in Petrograd; and, as the first practical step, the Russian Commander-in-Chief in the field was instructed to treat with the German army for an immediate cessation of hostilities. Both Germany and Austria, Russia's principal antagonists, agreed to discuss the terms of an armistice; but though Count Czernin, the Austrian Foreign Minister, indicated that Trotsky's outline of a "democratic peace" would form an appropriate basis for discussion during the negotiations, neither he nor Baron von Kühlmann, the German Foreign Minister, made any declaration of adhesion to the Russian formula. A still greater disappointment was that none of Russia's official Allies betrayed the slightest desire to participate either in the armistice negotiations or in the peace conference which these were to prelude.

All hostilities now ceased on the Russian front, and on December 3 the officials who were to discuss the armistice terms, and—as Trotsky hoped—the peace arrangements also, met at Brest-Litovsk, on the Polish war front. The Russian delegates, headed by Joffe, eager for peace according to their own formula, found themselves ranged opposite a party of soldiers commissioned to negotiate only a military armistice; and however earnestly, and at whatever length they spoke on the subject of the abstract ideals of their peace, their opponents brought back the discussion to the concrete details of areas of occupation and movement of troops. They had to accept the German terms; and with an agreement that all hostilities on the Russian front should be suspended from December 7 to 17 they returned to Petrograd to report. Their perfectly sincere desire for a general democratic peace seemed no nearer fulfilment than when they had set out for Brest-Litovsk. Yet they had secured an armistice which was not oppressive. Germany had demanded no cession of war

material, no disarmament of any part of the Russian forces. The boundary line which it was agreed neither side was to cross coincided with the barbed-wire lines between the armies, and, in the Baltic and Black Seas, with the delimitation of the areas actually in occupation by the Fleets. There had been no mention of the White Sea, nor any demand, as yet, for the expulsion of the British forces from Murmansk.

The armistice was extended to January 14 and was to lead immediately to negotiations for peace. The delegates from Germany, Austria, Bulgaria and Turkey arrived at Brest-Litovsk in time for their first meeting with the Russian delegates to be held on December 22. Baron von Kühlmann took the chair at this session, and in his opening speech, mainly occupied with good wishes, shrewdly suggested to the delegates that they should take into account what had actually happened. M. Joffe, the head of the Russian delegation, then put forward the principles with which an acceptable peace must accord. These were :

- (1) The union by violence of territories conquered during the war will not be permitted and the troops occupying them shall be withdrawn.

- (2) Peoples which have lost their political independence during the war shall have it fully restored.

- (3) National groups desiring political independence shall be allowed a free referendum.

- (4) In a territory of mixed nationality the minority shall be permitted to keep its national culture.

- (5) There shall be no indemnities, and requisitions made shall be returned.

- (6) Colonial questions shall be decided in conformity with the first four clauses.

Further, economic oppression of weak nations by strong is not permissible.

It was obvious that the representatives of the Central Powers must have time to devise an answer to this statement of principles, which, indeed, in some clauses was an indictment of their past and present actions. Kühlmann therefore adjourned the conference to meet again on Christmas Day. It had been arranged that representatives of each nation should preside in turn; it fell to Count Czernin, the Austrian Minister of Foreign Affairs, in the name of the Central Powers, to deal with the Bolshevik six points. He announced that there was no intention of forcibly appropriating occupied territories. As regards the withdrawal of troops, this must be settled separately for each place. The second point the

Central Powers accepted unreservedly; but the question of the self-determination of their own independence by national groups within a State should be solved only by that State itself. The protection of the rights of minorities was a component part of the principle of self-determination, the validity of which, so far as it was practically realisable, the Central Powers would grant. The principle of no indemnities they would also accept. The inhabitants of German colonies had, in the opinion of the Central Powers, shown themselves so much attached to their German rulers that it was unnecessary to ascertain their wishes by a vote. As for the addendum, the Central Powers had always advocated the exclusion of all economic oppression.

Thus it seemed from Count Czernin's reply that there could be no divergence between the Bolsheviks and their opponents as to the broad principles on which peace was to be based. Both sides appeared anxious for the democratic peace with its corollaries of self-determination, no annexations and no indemnities. There was, however, this remarkable proviso: the Central Powers could not bind themselves to these conditions unless within a reasonable time the Allies of Russia would agree to recognise and carry out similar conditions when peace with them was negotiated.

The German offer was finally embodied in two articles put forward on December 28. In the first the Central Powers agreed to evacuate Russia proper after Russian demobilisation; in the second they called upon Russia to recognise that the populations of Poland and the Baltic States desired independence, and could ratify their proclamations of separation by a plebiscite which should be arranged by a committee from the peace conference. This was the first rebuff to the hopes of the Russians. A plebiscite held while German armies were still in occupation was unlikely to have a result opposed to the wishes of the occupiers; and in the public Press the Bolshevik Government proclaimed the two proposed articles as contrary to the principle of free self-determination.

After a few days had been spent in dealing with a Russian attempt to transfer the negotiations to neutral territory, January 5 was reached. Ten days had elapsed since Count Czernin had announced the intention of the Central Powers to adhere in principle to the democratic peace policy of self-determination and peace without annexations or indemnities, on condition that the other belligerents agreed to the same formula. These were the ten days allowed to Russia for obtaining declarations of adherence from all her Allies. But

there was no sign that any country except Russia intended to cease fighting; and the negotiations for peace, though started with speeches full of noble and unselfish ideals, were taking a course which to the Bolsheviks was widely apart from the sentiments expressed.

When the Russian delegation, now headed by Trotski himself, returned to Brest-Litovsk, they were embarrassed to find there representatives of the People's Republic which had proclaimed the Ukraine to be independent of Petrograd. Further, the tone of Baron von Kühlmann's opening speech on January 9 differed slightly from his previous manner. He brushed aside the suggestion to conduct the negotiations elsewhere than at Brest-Litovsk, and stated that the Central Powers were no longer bound by their Christmas declaration. Above all, Count Czernin observed that the negotiations could only be continued on the basis of the two articles of December 28. "If not," he said, "then things will take their necessary course; but the responsibility of the war will then fall exclusively on the gentlemen of the Russian delegation."

This was, of course, an ultimatum. Trotski, struggling in the web of insincerity woven by his opponents, replied with bitter bluntness. "Do you agree," he cried, "to evacuate Poland, Lithuania and Courland and to leave the people freedom of decision? Do you renounce the idea of tearing away these territories, of imposing military and customs conventions upon them, and of establishing a monarchical government on the strength of the decision of little groups of exploiters?" The questions were rhetorical. Trotski knew that the answer to both was "No!" But the web encircling him was of steel. There was no escape from it. He could only accept the German terms and resume his seat to hear what more might be said.

Hereupon the representative of the Ukrainian Republic stepped in. This Republic, he said, had been proclaimed on November 20, and was now negotiating with the Central Powers for peace as a separate State independent of the Petrograd Government. This prompted an awkward question. "Until now," said Kühlmann, "we have been treating with the Petrograd delegation regarding the entire Russian territory. Does M. Trotski intend also in future to represent the whole of Russia?" Trotski fenced with this question, and produced a reply so obscure that only long discussion elicited from him the acknowledgment that the Ukrainian delegation was definitely an independent body. The point was important, since the Ukraine extended to the Black Sea and was reputed to contain large quantities of corn.

For several days the discussion revolved round the question of the Baltic provinces and their status. Russia had recognised the independence of Finland on January 4, and of the Ukraine, reluctantly enough, on January 10. But so long as the German armies overran Poland and the Baltic Provinces, Trotsky would not acknowledge their claim for independence. At length, after a prolonged philosophic inquiry as to the precise means by which the principle of self-determination is expressed and to what extent of territory it applies, the Russians produced a document giving their idea of the procedure they thought necessary in those particular provinces. It merely reiterated their original proposition: first withdraw the German troops, then return fugitives and populations removed in the course of the war, and finally hold a referendum of the whole of the people free from any military or police pressure of any kind.

General Hoffmann could bear it no longer. After all the talk to which he had been forced to listen, nothing resulted but this preposterous document. "I must protest," he said, "against the tone of these proposals. The Russian delegation talks to us as if it stood victorious in our countries and could dictate conditions to us. I would like to point out that the facts are just the reverse; that the victorious German army stands in your territory. I would like, further, to state that the Russian delegation demands for the occupied territories the application of a right of self-determination of peoples in a manner and to an extent which its government does not apply to its own country. Its government is founded exclusively upon violence, and suppresses by violence every opinion but its own. . . . That is how the principle of the right of self-determination appears in practice under the Bolshevik Government." To him, the occupied territories, even the islands in the Gulf of Riga, had already exercised their right of self-determination, and had all declared against union with Bolshevik Russia. Then, when Trotsky suggested that representatives of the occupied territories should participate in the negotiations, Kühlmann asked whether this meant that Russia accepted their independence; and Trotsky, once more out-manceuvred, let drop that suggestion also. On January 19 he went back to Petrograd, leaving Joffe again in charge of the Russian side of the negotiations, which for the next few days were concerned mainly with legal and economic details, while Kühlmann and Czernin returned to Berlin and Vienna respectively.

When the conference reassembled at the end of January under Czernin's guidance, the apparently interminable dis-

cussion of territorial questions was resumed. It reached at length one definite point, when, on February 9, a peace treaty was signed between the Central Powers and the Ukraine, in spite of Trotski's declaration that it was not accepted as valid by the Russian Government, a declaration which Czernin brushed aside as merely a matter between the Ukraine and Petrograd Governments, and of no interest to the Central Powers. And now Kühlmann announced that with Russia also a decision must be reached promptly. He put forward the German demands, thinly disguised as proposals, that Russia must acknowledge the independence of the occupied territories and that their future destiny would be settled by the countries themselves in agreement with Germany. Instead of the democratic peace so repeatedly demanded by the Bolsheviks, it was a German peace that was offered.

Trotski, confronted now with the necessity for decision, not discussion, determined to appeal to the world with one last moving, if somewhat theatrical, gesture. "This war ceased long ago to be a defensive war. . . . We do not agree to shed any longer the blood of our soldiers in defence of the one side against the other. We are giving the order for a general demobilisation of all our armies . . . in the strong belief that other peoples will soon follow our example. . . . The Governments of Germany and Austro-Hungary are determined to possess lands and peoples by might. Let them do so openly. We cannot approve violence. We are going out of the war. But we will not sign the peace treaty."

Thus on February 10 came to an end the negotiations for peace between Russia and the Central Powers. On the 18th the German army resumed hostilities and began to advance on Petrograd. The Bolshevik Government immediately forgot Trotski's noble gesture, and in a hurry offered by wireless to Berlin to sign the treaty dictated by the Central Powers at Brest-Litovsk. General Hoffmann demanded an official confirmation of this message, and it was speedily sent him by special messenger. The Bolsheviks begged for a renewal of the armistice. But this was not granted; and on March 1 the Russian delegation was given three days to digest the formal peace treaty. Although the surrender of Russia was now practically unconditional, the Germans had added little to the peace terms which had so long been debated; the chief addition was the detachment from Russia of the Black Sea regions of Georgia and Kars on the pretext that they had self-determined on separation and independence. The Russian delegation, of which M. Chicherin was one mem-

ber, still endeavoured to maintain some sort of dignity. It refused to read the treaty, as if to show that it was constrained only by force to sign. No such demonstration was needed, since it must submit to whatever the Germans might think it advisable to demand; and thus on March 3 peace was given to Russia by the treaty of Brest-Litovsk. By it Russia pledged herself to abstain from interference in the separated regions and from propaganda against German institutions there; she agreed to demobilise her armies, to keep her own and Allied warships acting with her in Russian harbours, and to remove mines; she guaranteed to withdraw her troops from the Ukraine, the Baltic provinces, Finland, the Aaland Islands, and the Black Sea provinces already specified; economically she was compelled to accept in an aggravated form a commercial treaty favourable to Germany and to pay interest on Austro-German loans to the Tsarist Government; and, what seemed perhaps worst of all to the delegation, she was forbidden all revolutionary agitation directed against the Central Powers and their military authorities.

The day before they signed the peace treaty the Russian delegates had wired to Petrograd for a special train. This seems a natural request; but Lenin, in the state of panic to which the Bolshevik Government had been reduced, interpreted it to mean that the Germans had refused to conclude peace. He sent out a wireless message to all the local Soviets, which ended, "We must be ready for an immediate German advance to Petrograd and on all fronts generally. All the people must rise and strengthen the measures taken for the defence." To the Soviet in the north at Murmansk he was more definite, for there at any rate was a nucleus from which resistance might be built up. On March 2 the authorities at Murmansk received the following, signed by Trotski:—

Peace negotiations apparently broken off. Danger threatens Petrograd. Measures are being taken to defend it to last drop of blood. It is your duty to do everything for defence of Murman line. Germans are advancing in small bodies. Opposition is possible and compulsory. Nothing must be left to the foe.

You are ordered to co-operate with Allied Missions in everything and to put all obstacles in way of advance of Germans. The robbers are attacking us. We are obliged to save the country and the revolution.

In obedience to this very definite instruction, the Mur-

mansk Soviet approached Admiral Kemp with a scheme of united action which they begged him to accept.

The Admiral had under his command only the small naval force which, as in the previous winter, had been left in Kola Inlet; it consisted at this date of the battleship *Glory*, the cruiser *Vindictive* and a group of six trawler minesweepers under Commander The Hon. E. A. G. Gore-Langton. The question of removing even this force had been debated in January, and the decision reached at the end of that month was that they should remain at Murmansk, but in complete readiness to leave if the necessity should suddenly arise. There were three principal reasons for keeping in North Russia some force representative of the British navy: at Archangel there remained 12,000 tons of explosives and 200,000 tons of metals, shells, tractors, motor cars, clothing and other valuable stores of which the Germans would undoubtedly try to get possession; in the White Sea were also many Russian naval vessels which we were anxious to keep from the enemy, who might in the peace terms have insisted upon their surrender; and refugees of various Allied nationalities were congregating at Murmansk, which could still be reached by railway. Among these last were many French and Belgians; of the two thousand refugees at Murmansk when the peace negotiations were broken off and the Germans began to advance again, about a third were of these two nationalities, and every day their numbers increased as stragglers kept coming in.

At that time it seemed probable that the Germans would seize Petrograd; in that case nothing could prevent their occupation of Kola Inlet except the presence of a British expeditionary force, which Admiral Kemp thought should be sent at once and should consist of at least 6000 men. The Russian garrison at Murmansk could only be relied upon to back the winning side; if the British seemed stronger they would resist the Germans, if the Germans came in greater force the Russians would eject the British. The Murman district was so much isolated from the rest of Russia that the Bolshevik Government was not actually in power there till after the middle of February, when the command of affairs in Murmansk was definitely taken over by a Soviet owing allegiance to Petrograd. This Soviet at once affirmed its desire for a continuance of friendly relations with the Allies; there is little doubt that it was largely influenced by the fact that from the Allies alone was there any chance of obtaining supplies of food.

In those critical last days of February the problem to

be solved was a complicated one. The German advance was unopposed and its limits could not be foreseen. Nor could the nature of the peace conditions; it was most probable they would include the expulsion of the British force and the surrender of Kola Inlet, which would then be utilised as a base for submarines. At Archangel the heaps of ammunition and immensely important stores were still lying; it would be disastrous if, after all the trouble and danger involved in getting them to Russia, they should be used against our own soldiers. It was, further, a moral duty of the Allies to save their national refugees from the fate that in Bolshevik Russia under German domination was likely to be awaiting them. Added to all these anxieties was the fact that the Bolshevik Government had not been recognised by any of Russia's former Allies, and might at any time be overthrown by a popular rising or replaced by a German dictatorship. Amid all this confusion there were two hopeful facts: the Bolshevik Government had not, of its own accord, demanded the withdrawal of the British force at Murmansk, and the Germans showed as yet no sign of attempting an advance on Kola Inlet.

The Admiralty met the situation by immediately despatching the cruiser *Cochrane* to join Admiral Kemp, and by asking the French and American Governments each to send a similar ship. This they considered should give the Admiral a force sufficient to ensure respect from the local Soviet and to deal with any raid on Murmansk. At the same time two vessels were sent to bring away refugees and to convey to Admiral Kemp a party of Royal Engineers, who, in case of necessity, would blow up bridges or destroy the stores. None of these reinforcements had arrived when, on March 3, the Murmansk Soviet approached Admiral Kemp with urgent requests for assistance in response to Trotsky's telegram. They proposed to him and to the French representative that the Soviet should have supreme control of the defence force, but that the Executive command should be vested in three persons, one appointed by the Soviet, one by the French and one by the British representatives respectively; the last two would not interfere in internal affairs, but should provide the armed force, equipment and stores for the defence.

However much the British Government may have wished to accede to Trotsky's appeal for assistance, the despatch of troops from England seemed at the moment to be impossible. The Allies could not undertake the military defence of Murmansk, nor could they support any operations beyond the reach of the ship's guns. What was possible they were

prepared to do. If the Russians would defend themselves, British bluejackets could be landed to stiffen the resistance against the Germans, but Admiral Kemp was not to share the executive command of the Russian forces, and must not forget that his main interests were the safety of the Russian men-of-war, the repatriation of refugees and the preservation of the Allies' stores at Archangel. The *Cochrane* arrived at Murmansk on March 7, and the French cruiser *Amiral Aube* on the 19th, the two together forming a considerable reinforcement. On April 3 a German expeditionary force landed in Finland and proceeded to occupy Helsingfors and Abo.¹

The Murmansk Soviet begged once more for assistance. They wrote urging Admiral Kemp to promise armed forces for the prevention of disturbance and anarchy. Since the local Soviet had no organised police or armed forces, he was disposed to agree to this upon certain conditions, amongst which were the publication in the local Press of all the correspondence on the subject, indemnification of the Allied forces against claims for injury, and confirmation by the Central Government. The Allies were still averse from intervening in purely internal affairs except upon direct request of the Russian Central Soviet to the British Government, but the Admiral was given discretion to employ Allied forces under his command to prevent disturbance or anarchy locally if Allied interests were involved or threatened. In spite of these rebuffs, the relations between the Murmansk Soviet and the Allies continued on a most friendly footing.

The necessity for collaboration was soon apparent. The Finns, whose independence Russia acknowledged, were not content with their seaboard on the Baltic and were credited with a desire to increase their territory by the inclusion of the provinces between Finland and the White Sea, an extension which would give them the Murman coast with its ice-free harbours and also most of the Murman railway. There were two political parties in Finland: the "Whites," anti-Bolshevik and pro-German, the "Reds," pro-Bolshevik and anti-German. In the Finnish republic the "Whites" predominated and the "Reds" were rebels; in Russia the Bolsheviks were in power, and such groups as were of "White" politics were kept quiet in the ruthless grip of Lenin and his Soviet. By the Treaty of Brest-Litovsk Russia had guaranteed to demobilise her army, but, to protect the railway from attack by small parties from Finland intent on damage,

¹ On their arrival the British submarines in the Baltic which it had been found impracticable to withdraw were blown up and sunk by their officers, to prevent the boats from falling into the hands of the enemy.

Lenin raised a force of railway defence troops which soon became known as the "Red Guards." Some sort of discipline was enforced among them; their officers were appointed from Moscow,¹ and not elected, on the earlier Bolshevik model, by the men themselves. They were distributed along the railway, various parts of which were reported from time to time as being threatened by raiding parties from Finland.

It was elsewhere, however, that the first encounter took place. On May 3 the Murmansk Soviet learned that a party of armed "White" Finns was advancing on skis, with guns drawn by reindeer. Its objective was Pechenga, the first harbour of Russia east of the Norwegian border. The place had special importance, since it was only an hour's steaming from Vardö across Varanger Fiord, and as soon as navigation reopened it was to be the assembly port of the escort of the convoys between Vardö and Archangel. At the request of the Murmansk Soviet, Admiral Kemp embarked a party of "Red Guards" in the *Cochrane* and sent her to the threatened harbour with orders to land her passengers and operate in the immediate vicinity of Pechenga for the defence of the town, and to disperse or capture any armed Finns who might be encountered.

The *Cochrane* (Captain J. U. Farie) reached Pechenga Bay on May 3, and the Russian troops she had brought from Murmansk and a detachment of Royal Marines were at once landed to take up positions of defence. By arrangement with the local Soviet, Captain Farie then landed a party of 144 seamen under Commander John W. Scott, whom he put in charge of the local defences. It was not till the 10th that the enemy appeared. A small advanced party of Royal Marines met sixty or seventy Finns, and had to fall back; this was an operation of some difficulty, as the enemy, on skis, could move rapidly, while our men were floundering in deep snow. A force of about 120 Finns was driven off on the 12th. The Russians, mostly seamen from the *Askold*, who had quartered themselves in a monastery eleven miles away, took little part in these operations, though the only man killed among the defence parties was a Russian frontier guard. No further fighting took place till June 20, when our men captured a boat with machine gun on a lake inland.

Although the Murmansk Soviet looked with gratitude to the Allies as their friends and defenders against Finnish aggression, there was now a marked coolness in the attitude of the Moscow authorities towards us. Trotski had been succeeded as

¹ After signing the Treaty of Brest-Litovsk the Russian Central Government moved to Moscow, thinking Petrograd too near the German armies.

Commissary of Foreign Affairs by Chicherin, who, after his experiences at Brest-Litovsk, felt unable to oppose more than a formal resistance to German demands. Telegrams began to pass from Moscow to Murmansk repudiating any desire for assistance from the Allies and accusing the northern Soviet of counter-revolutionary leanings. These messages might well be the prelude to an ultimatum demanding that the Allies should withdraw, and proposing the substitution of a new Soviet more amenable to Moscow and Germany. But instead of the expected demand for evacuation, there followed, a week later, merely an instruction from Chicherin to the northern Soviet that it should not apply for the assistance of one Imperialistic Coalition against another; he ended his telegram, "It is possible that the English will themselves resist advancing White Guards, but we must not come forward as their Allies, and we will protest against their operations on our territory." Admiral Kemp construed this to mean that any action taken by the Allies would be met only by protest, and not by armed interference.

The position was entirely altered in the middle of May, when a submarine began operating off Vardö. Three small Russian steamers were sunk by it. One of these was at anchor in Vaida Bay on the Russian side of Varanger Fiord; the submarine opened fire on her and on the boats containing her crew and passengers, killing eight and wounding five more. As a further effort of terrorism the submarine then bombarded a Russian signal station, and sank two more small Russian steamers and five Norwegian fishing vessels, thus putting a stop temporarily to the fishing on which North Russia was at this time mainly dependent for food.

By the Treaty of Brest-Litovsk Germany had reserved the power to continue the submarine blockade of the Arctic until the conclusion of a general peace; and when Lenin protested against the destruction of Russian ships, he received the reply that the sinkings would cease when the British withdrew from Murmansk. Chicherin therefore called upon the Murmansk Soviet to demand the withdrawal of the Allied force in order to assure safe passage for Russian merchant ships. This course was not acceptable to Russians in the north; the sympathy of the population was with the Allies. The Allies, not the Moscow Government, were defending the province against the Finns; the Allies, not the Moscow Government, were feeding the people and helping them with large supplies of fishing tackle. All this was pointed out to the Moscow Government, with the addition that it was impossible to eject the Allies without a force for the purpose. In fact, though

it was not expressed in this correspondence between Moscow and Murmansk, there was a feeling in the north that the Murman province was being used as a pawn in the game of German aggression. It was known that Finland, now frankly a German protectorate with 20,000 German troops in it, wished to extend its borders to the White Sea, and there was a rumour that Chicherin had already arranged to give up Pechenga to Finland in exchange for some Baltic ports. The Murman Province, however, had no wish to have as its master a Germanised Finland, which could certainly not provide food; and the Murmansk Soviet had already thought of declaring themselves autonomous in imitation of the Baltic States and of requesting regular protection from the Allies.

Admiral Kemp was well aware of what was passing. He had the advantage of a thorough knowledge of the Russian language, and his relations with the local officials were so cordial that they kept him fully informed of the situation. What he did not know was the extent to which the Allied Governments wished him to respond to the trust placed in him by the Murmansk Soviet. It was therefore a relief to him when, on May 18, the Admiralty clearly laid down his duties. They were (a) to protect Allied refugees, (b) to resist attempts made by local Russian forces to compel the Allies to evacuate North Russia, (c) to defend on behalf of Russia the coast of Russian Lapland between Kola Inlet and the Norwegian border against Finnish or German invasion, (d) to hold for Russia as much of the Murman railway as possible. The smallness of the force for these purposes was fully realised at home, and certain reinforcements were about to leave England; food supplies for sale or exchange were being provided, and equipment for developing the fisheries on a large scale would soon arrive with skilled men to train the local fishermen in its use.

Another element in our policy must be mentioned here. One of the provinces of the Austrian Empire was Bohemia, inhabited by Czechs, a race of Slavonic affinities, more or less openly hostile to Austrian rule. Regiments raised in Bohemia had surrendered or deserted to Russia whenever possible, till in the prisoners' camps behind the Russian lines were large numbers of Czechs, whose main desire was to free their native land from foreign domination. With the Peace of Brest-Litovsk they ceased to be prisoners. They began to assemble at Omsk in Siberia. By the middle of April there were reported to be as many as 60,000 Czechs along the railway near Omsk; and being more or less organised as an army, they dominated the situation in Central Siberia. To a

certain extent they were under French direction; and feeling it impossible to do any useful work in conjunction with the Moscow Government, they expressed a wish to be transported from Vladivostok to France, in order to fight the Germans on the Western Front. It seemed, however, that they could be more quickly useful if they moved westward along the railway to Archangel, where they would be at hand to oppose German aggression in the Murman region; and our representative in Moscow, Mr. Lockhart, was instructed to endeavour to obtain Trotsky's authorisation for making the necessary arrangements. By the middle of May these seemed to have been satisfactorily settled. One Czech Corps proceeded eastward towards Vladivostok, but a second corps was reported to be coming to Archangel, and a French officer who arrived at Murmansk at that time proposed to station 5000 Czechs at Archangel and another 4000 along the Murman railway.

There can be no doubt that the Supreme War Council always kept before their eyes the paramount reason for Allied intervention in Russia: to prevent, as far as possible, the withdrawal of German forces from Russia to France. The War Cabinet, therefore, now decided to send a small military force, really little more than a staff of instructors, to train the various anti-German elements in North Russia. In command was General Poole, who was to be stationed at Archangel and have under him 500 British officers and men, by whose aid he was to train and organise the Czech corps, expected to number about 20,000 men, which would then be employed for the defence of North Russia. As its position at Archangel would be most precarious unless communications with England and France were kept open, another small force of 530, under Major-General Maynard, was to be landed at Murmansk; this, with the assistance of the French, the 600 Royal Marines on the station, and such "Red" Finns and Russians as chose to join them, would, it was hoped, be sufficient to beat off any German-Finnish attempts to seize the ice-free ports and convert them into submarine bases. Three months food, not only for 2000 British but also for 25,000 foreign troops, would come in the transports bringing the two parties.

When General Poole arrived on May 24 in the United States cruiser *Olympia*, which had been sent to swell the Allied naval squadron, no obstacles were placed in the way of his landing or of the disembarkation at Murmansk of the small British party that accompanied him. He found that the total force available for defence consisted of 400 Frenchmen, 600 British Royal Marines, 2000 Russian railway troops, and 1200

Serbians, only half of the last having rifles. It was not known at Murmansk where exactly were the Czechs he had come to train; but a few days later he learned that they were held up by a Bolshevik army in Eastern Russia. By June 20 the chance of any detachments of Czechs reaching Archangel had become extremely slender.

The Murmansk Soviet was becoming increasingly discontented with the Moscow Government, which they considered to be under German domination. At the end of June there arrived information of the despatch from Petrograd of a Bolshevik force of 1500 men under Natsaremus; this official instructed the Murmansk Soviet to make a formal protest against the presence of the Allies, and the object of his force was presumably to eject them from the province. This proved to be the deciding factor. At a mass meeting of the inhabitants held at Murmansk on July 1 it was unanimously decided to defend the town against the threatening advance, and not to obey the Moscow Government; the Allies were asked to co-operate fully in both military and economic measures. The only line of advance open to Natsaremus was by way of the Murman railway, which emerged on to the shore of the White Sea at Soroka, at Kem and at Kandalaksha, respectively about 445, 420 and 200 miles from Murmansk. Early in June the *Amiral Aube* had been ordered to Kandalaksha to assist in repelling an anticipated raid by Finns, but she had been unable to get through the ice in the narrow neck of the White Sea. Accordingly, 150 Royal Marines had been sent to Kandalaksha by train. Possibly their presence had a deterrent effect, for no raid then developed. By the end of June the ice had almost cleared, and the light cruiser *Attentive* (Captain E. Altham), which had recently arrived from Scotland, and had been at Murmansk since the 11th, was able to get to Kandalaksha by careful steering among the icepacks. The place had been disarmed by an Allied force, and the situation was well in hand. As there was a threat of attack from the south, Captain Altham proceeded to Kem, where he found also a military force just arrived and in friendly possession. On July 6 the authorities at Kem received from Soroka an appeal for help against a Bolshevik force which had burned some bridges and was threatening to burn Soroka itself. The *Attentive* proceeded there at once. Her appearance at Soroka was enough for the hostile forces; they hurriedly retired towards Petrosavodsk by train, burning the railway sheds as they left. Their departure and Captain Altham's arrival were warmly welcomed by the people. It was here that the first exchange

of shots with the Bolsheviks occurred. Captain Altham was making a personal reconnaissance of the lines of approach south of Soroka in a seaplane from H.M. carrier *Nairana* which had arrived on July 19. When over Parandova, fire was opened from two troop trains filled with Bolshevik troops. Captain Altham returned and silenced the fire with the seaplane's Lewis gun. The machine was considerably damaged but the occupants untouched; the Bolshevik casualties are not known. General Maynard did not intend to hold the line further south than Kem; and as soon as a railway bridge between Soroka and Kem, which had been burned by the Bolsheviks, had been repaired, and an extemporised armoured train with a naval force from the *Attentive*, and some Allied representative had carried out an armed reconnaissance south of Soroka, Captain Altham returned. The *Attentive* was back at Murmansk on July 29, ready for another important operation.

The chief object for which General Poole had come was the occupation of Archangel and the safeguarding of the railway from there to Vologda, where it makes connection with lines to European Russia and Siberia. This section he was to hold against all attempts to drive him out, with the double purpose of preventing the removal of the military stores and of being in a good position should the Allies decide to help the anti-German elements in Russia in reconstructing a new war front. So far, the ice in the White Sea had precluded any forward move, but the First Lord, Sir Eric Geddes, who came in the *Southampton* to confer with the officers on the spot, advised the War Cabinet to order a landing at Archangel as soon as it was practicable. The British forces for Murmansk and Archangel—1000 men and 150 officers—arrived with him on the same day (June 23); they were to be followed, in accordance with a decision of the Supreme War Council, by a battalion of French infantry, by two of Italian Alpini who would be practised in moving on skis, and later by three battalions of Americans well accustomed to rigorous cold.

Although the Murmansk Soviet had on July 6 signed a friendly agreement with the Allies, the Archangel Soviet still adhered to the Moscow Government. Some resistance might therefore be expected, and General Poole decided that it would be unwise to attempt a landing at Archangel with only the small force of British troops. The French battalion was to arrive before the end of July, and he determined to wait for it. It was impossible to forecast the reception that would be accorded to the Allies. There

were counter-revolutionary disturbances in various parts of Russia, whether anti-Bolshevik or only anti-German it was hard to tell. In a rising at Moscow, Count Mirbach, the German Ambassador, was killed, and about the same time a town between Vologda and Moscow was seized by an anti-Bolshevik organisation. From these and other indications it seemed possible that Lenin was losing his hold on Russia, and that a party more inclined to oppose Germany might seize the reins: in the country east of the Urals and in the south-east various forces had risen and driven out the Bolshevik Commissaries; and, most tragic symptom of all, the imprisoned Tsar and all his family were murdered in cold blood on July 16, for fear lest they should become the focus of a monarchist revival.

One of the plans whereby it was hoped to prevent the military stores at Archangel from passing into the hands of the Germans was the despatch of supplies of food to be bartered for adequate parts of the stores. Two ships filled with provisions and other supplies came out from England in the early spring, and were got to Archangel with the help of a British armed ice-breaker, the *Alexander*. But though every effort was made to carry through the plan of barter, it was impossible to obtain the consent of the Moscow Government, without whose permission the stores could not be moved, and which was, in fact, steadily sending them away by rail into the interior. By June it appeared that most of the military stores had been removed. Early in July Admiral Kemp went to Archangel to ascertain the position of affairs and to make some definite arrangement with regard to the *Alexander*, whose presence for the purpose of protecting the food from raids was resented by the Central Soviet. The Admiral learned that shortly before his arrival there had been an ugly demonstration against the *Alexander* by all the armed vessels in the port, and even field-guns ashore. The cool and firm conduct of her commanding officer, Captain Hurt, and the personal hold he had obtained over the Russian seamen serving under him in the trawler fleet the year before, succeeded in averting the immediate danger. But such incidents might be repeated, and the Admiral sent her away to Murmansk. All efforts to obtain ammunition in exchange for food failed. The Archangel Soviet refused to hand over the stores without orders from Moscow. But there were at hand other elements of a bargain. A number of Allied refugees, cut off from Murmansk when the line was damaged by the retreating Bolsheviks, had congregated at Archangel, and by orders from Moscow were being detained there almost as if

they were hostages. In order to secure their freedom and also to create a friendly feeling, the Admiral, with the concurrence of General Poole and the Consul at Archangel, agreed to hand over part of the food cargo to the local co-operative societies for distribution among the starving people of the town and district. He also made arrangements with the Soviet for the exchange of goods in the future, bearing in mind that the presence of British ships in Archangel would enable us to continue stationing men-of-war in the harbour, for the ostensible purpose of defending them.

On the arrival of the French battalion at Murmansk on July 25 it became possible to make arrangements for the landing at Archangel. The mouth of the River Dvina here debouches into the White Sea in a delta of many low-lying islands, the town itself being on the principal arm of the river and twenty-five miles from the open sea. The only practicable passage over the bar of the Dvina is flanked by a long, narrow island named Mudyugski, on which there were known to be formidable batteries. A landing at Archangel in face of organised opposition was scarcely feasible. A few machine guns on the banks of the long, narrow channel; the facility with which mines protected by hidden guns could be laid in the river; the difficulties of actual disembarkation—all these seemed to the Admiralty Staff to render such an operation impossible in face of firm resistance. But they felt it desirable to secure a position whence immediate advantage might be taken of a favourable turn of events ashore; and they therefore suggested that the first step should be to seize Mudyugski Island, for which the naval force on the station seemed sufficient, and then, by playing on the threat of seaplane bombing and the attraction of the food supplies, to induce at Archangel a favourable reception for the transports containing the troops.

This plan evidently contemplated the lapse of some time between the seizure of Mudyugski and the occupation of Archangel. General Poole, however, thought it inadvisable to have any considerable interval between the two operations. The tortuous channel between Mudyugski Island and the town could easily be obstructed, and any action which should forewarn Archangel might lead to irreparable delay. The plan, therefore, jointly decided upon by General Poole and Admiral Kemp, was for the fort to be attacked and if possible captured only eight hours before the arrival of the transports containing the main body of the troops.

The expedition was timed to start from Murmansk on August 3, but the trend of events hastened it by several days.

On July 30 a steamer arrived at Kandalaksha from Archangel, bringing the staffs of the Allied Embassies, who, when the Bolshevik Government fled from the Germans to Moscow, had retired to Vologda. They were now seeking safety in the Murman region, and a message was received from them saying that an intended rising at Archangel could no longer be postponed, as the Bolsheviks were constantly arresting its promoters and breaking up the organisation. This news decided Admiral Kemp and General Poole to start at once. A hundred French troops were embarked in the *Attentive*, two hundred in the seaplane carrier *Nairana*, and two hundred more in the *Amiral Aube*. The French ship carried also a hundred British Royal Marines, and being the most heavily armed vessel of the three, was allotted the task of battering the forts. Half a dozen trawlers preceded the squadron, which left Murmansk at 9 p.m. on July 30. In the Gorlo, the narrow neck of the White Sea, they ran into thick fog in which the ships became separated. Shortly afterwards Admiral Kemp received from the *Amiral Aube* a wireless message that she had run aground.

This was a serious misfortune. The *Amiral Aube*, on whose guns the expedition relied for the silencing of the fort, and which also carried most of the landing party, had dropped out. Admiral Kemp and Gen. R. G. Finlayson, in charge of the troops, were both in the *Nairana*. After a consultation they decided to attack on the original plan without the *Amiral Aube*, trusting that she would be able to refloat herself and join them later. Accordingly about 3 a.m. on August 1 the two British ships having regained touch, the *Nairana* anchored fifteen miles from the island, while the *Attentive*, by Admiral Kemp's orders, went on to the lightship which marked the entrance to the Channel. Captain Altham boarded the light-vessel, and from there, communicating by telephone with the commandant of the fort, delivered an ultimatum that unless the island were surrendered unconditionally in half an hour it would be bombarded by the ships and bombed from the air. In token of surrender the commandant was to hoist white flags and muster his whole garrison on the foreshore, where he would be under the guns of the ships while the troops landed. After some delay the commandant capitulated unconditionally, and Captain Altham returned to his ship, which then steamed in towards the lighthouse. Meanwhile, the *Nairana* having flown three seaplanes, the two British ships also closed, and prepared to land the troops. At this moment a tug put out from the lightship, signalling that she had an urgent message for the Admiral;

it proved to be a complete reversal of the previous submission, and in it the commandant threatened to resist any attempt at landing.

It was obvious that the Bolsheviks were still in power at Archangel, and were determined to oppose the Allied force. But to Admiral Kemp it seemed imperatively necessary that the original plan must be carried through. He therefore decided to attack the island from the northward. The troops were re-embarked and the *Attentive* moved up close inshore steaming leisurely across the line of batteries to a position about 5000 yards from the northernmost battery, where she anchored. The *Nairana* also anchored further to seaward. At 10 a.m. the *Attentive* was ordered to open fire and the seaplanes to bomb. The enemy had two batteries of four 6-inch guns each and one of four 4-inch. The *Attentive* could bring to bear two 6-inch and three 4-inch on a broadside, and had the task, inevitable in all engagements between ships and forts, of knocking out the actual guns and mountings, while the ship herself was a clear and vulnerable target to the shore gunners. Fortunately, the enemy failed to make good use of their advantages. "For the most part," writes Captain Altham,¹ "the batteries' shooting was wild; but one 6-inch gun was evidently in expert hands. One shot skimmed over the forecastle, the next whistled over our heads on the bridge, and the next plunged into the base of the foremost of our four funnels, and burst there, putting two boilers out of action and doing other damage." This, however, was the only hit made by the Bolsheviks. The fort endured for only ten minutes the shells of the *Attentive* and the bombs of the seaplanes; it then ceased fire and the troops began to land. Captain Alliez, the French officer in charge, found some slight opposition from rifles and machine guns; but by 8 p.m. the garrison had fled in boats up the river, leaving Mudyugski Island in our possession at the cost of two or three wounded. What was a strong position which might easily have repulsed this slender force had been carried, in Captain Altham's phrase, "by sheer effrontery." In the south of the island was found a station from which a minefield could be fired. Now that the station was occupied the mines were harmless. In the course of the afternoon the *Amiral Aube* arrived; the object she had fouled was not a sand-bank, but an old wreck, and she had soon been able to free herself. General Poole, in the yacht *Salvator*, came up at 4 p.m.; and the five trawlers, who had only 10 knots speed,

¹ "The Dvina Campaign," in the *Journal of the Royal United Service Institution*, May 1923.

joined in the evening. Soon after the whole island was in our hands.

Next morning, August 2, the squadron proceeded up river for Archangel. The resistance of Mudyugski Island had robbed their visit of any element of surprise, and some resistance was expected, especially from two armed ice-breakers known to be in the port. These were duly sighted approaching as day broke, but instead of engaging were sunk across the channel; the operation seemed to have been performed in a hurry, and there remained sufficient space between them for the squadron to pass. Eight pilots found on board the lightship were brought back to the *Attentive* to pilot the squadron. No incident marred the procession of ships up the river; and, after landing detachments of French troops at one or two important points, the squadron anchored off Archangel. The whole waterside of the town was black with cheering people, greeting its arrival in a frenzy of acclamation. General Poole and Admiral Kemp landed and were received with enthusiasm. Everywhere the red flag of the Soviet had been hauled down, and in its place flew the old Russian tri-colour or the Russian naval flag with its St. Andrew's Cross.

The Allied force with the squadron was insufficient to oppose any real attack, and until the four transports with the remainder of the troops should arrive their position was none too secure. A Bolshevik armed yacht was firing on the town round a bend; but the *Attentive* soon captured her, and Captain Altham's return with this prize brought to a close the operations of August 2.

Early on the 3rd Admiral Kemp learned that a party of red troops were approaching Bakharitsa, on the opposite side of the harbour, by rail. This was serious; for at this railway terminus on the west bank of the Dvina were the immense warehouses containing the warlike stores and what remained of the food supplies. These might be the immediate objective of the advancing red troops. Admiral Kemp sent the *Attentive*, supported by seaplanes, to keep them back. Captain Altham landed a party of seamen to hold the railway terminus, the approach to which he commanded with the ship's guns. Later in the day the little naval party was reinforced by French troops and local Russian volunteers. It was mainly due to the *Attentive's* gunfire that any red advance was prevented during the dangerous hours till the arrival in the late afternoon of the four transports, which berthed alongside the railway terminus and relieved the hard-worked naval landing party. To assist the

military forces to stabilise their position two naval 12-pounders were landed from the *Attentive*, and their crews sustained two casualties in warding off a flank attack after the ship had returned to Archangel. The occupation of Archangel was thus complete.

Now that the Bolsheviks had fled back to the southward, the province of Archangel set up a new council under a president named Chaikovski. Before long the Murman Region and the other northern provinces, Vologda and Perm, showed signs of wishing to join Archangel and form a northern confederacy independent of the Bolshevik authorities in Moscow.

At the far eastern end of what had been the Tsar's dominions at Vladivostok a parallel series of events had been taking place. There, as at Archangel, large quantities of munitions and military stores had been landed, and affairs at the port were watched by an Allied naval force, of which the cruiser *Suffolk* was the British representative. Parties of Czech troops straggled in to Vladivostok, but the main body of them was held up by Germans, prisoners freed by the Treaty of Brest-Litovsk who had seized arms and taken possession of Irkutsk, on the Siberian railway, thus cutting the communications between the eastern and western portions of the Czech army. The only Allies who could spare men to help extricate the Czechs in western Siberia were the Americans and the Japanese, but President Wilson refused any effective assistance, and the Japanese, when they landed, had orders to go no further west than Irkutsk. One British battalion, the 25th Middlesex, under Colonel John Ward, landed at Vladivostok on August 3, simultaneously with the other landing at Archangel, and though it penetrated as far inland as Omsk, and spent Christmas there, the only Allied force to reach the line held by the Czechs west of the Urals was an armoured train mounting two of the *Suffolk's* 12-pounder guns, in charge of a gun's crew from the ship. In mid-October the train was at Ufa, 4350 miles from Vladivostok. The Navy has often landed men to assist in military operations, but never before has such a party gone so far from its parent ship.

Though the dispirited Czechs looked in vain for support from the east, the Allies were endeavouring to get in touch with them from the White Sea bases.

On August 10 General Poole at Archangel received fresh instructions from the War Office defining the policy he was to carry out. He was to co-operate in restoring Russia, with the object of resisting German influence and penetration and enabling the Russians again to take the field side by side

with their Allies. In order to effect this object his immediate aim was to establish communications with the Czechs; and with their assistance to secure control of the Archangel-Vologda-Yekaterinburg railway and the river and railway communications between Archangel and Vyatka.

In fact, these two routes, the railway and the river, were the only lines along which it was possible to hold out a helping hand to the Czechs. The White Sea is a deep indentation in the *tundra* belt of the globe which connects the polar ice cap to the forest zone. The *tundra* is a land of six months frost and six months thaw. When not ice-bound it is a swamp. Its vegetation, apart from occasional masses of pines which have invaded it from the south, consists of moss and bog-herbs, starred, in the brief season of perpetual day, with innumerable tiny flowers. Over such a terrain as this the only tracks are those connecting the scattered islands of higher land; roads as we understand them in England are non-existent. When General Finlayson himself went up the river he found a fertile strip of land along each bank; elsewhere there were either thick pine forests, rivers, lakes, or immense stretches of bog looking like sticky porridge. On ground of this nature it was impossible for troops to march or manœuvre; yet it was in this region of swamp and morass that General Poole's force had to conduct its operations. Part of it had already begun to move southward along the railway towards Vologda, repairing the bridges as it advanced. But it met with considerable opposition, and by September 4 was held up at Obozerskaya, about 75 miles south of Archangel.

The advance up the Dvina towards Kotlas began on August 6, when a detachment comprising 150 French, 50 British, 160 Russians and 40 Poles left Archangel in three river steamers, under the command of Major Ringue of the French army. It carried a month's provisions; and the intention was, if possible, to push on to Kotlas, 390 miles up the river, by the channel. Major Ringue found no signs of the retreating Bolsheviks as far as Ust-Pinega, and reached Bereznik on August 8, capturing a tug just north of the village. His river steamers were each armed with a gun, which in such frail craft proved to have dangers for the gunners as well as for the enemy; the recoil of the first round fired unseated the gun and sent it down into the cabin below. But Major Ringue had reported from Ust-Pinega that he expected some slight resistance at Bereznik, so a small naval party from the *Attentive* was organised to man a couple of river steamers as extemporised gunboats each.

carrying a 12-pounder gun. These two gunboats, called the *Advokat* and *Gorodok*, left Archangel on the 10th, towing a barge in which were a couple of seaplanes and three 12-pounder guns, the personnel of the latter being supplied from the *Nairana*. Commander Cowan of the *Nairana* set off from Archangel in a fast motor boat to reconnoitre ahead of Major Ringue's force.¹

On arrival at Bereznik he found the force there in a serious predicament. It had been attacked by four Bolshevik craft armed with long-range guns. Major Ringue and other French officers had been wounded and the expedition was brought temporarily to a standstill. By Commander Cowan's advice the troops entrenched ashore, where they obtained protection from the fire of the Bolsheviks, to which they had no means of effective reply. The *Advokat's* party were meanwhile making their way up river; but Bereznik is 180 miles from Archangel, and they did not reach the expedition till the 12th, when, to the surprise of Lieutenant H. J. F. Cavendish, in command, he learned that the troops had been three days under fire. Proceeding further up river, he met and drove off the Bolshevik craft; they retired so far that the seaplanes failed to sight them the next day. On the 13th the command of the force ashore was taken over by Colonel Josselyn, and the gunboats proceeded on reconnaissance up the river. Several times enemy ships were sighted and chased, but could not be caught. In the last of these chases the gunboats, after passing the village of Troitsa, were suddenly ambushed from a wood which came down to the river bank, and immediately found themselves the centre of a "perfect cauldron" of fire. They managed to turn without serious loss; but till this position could be destroyed further progress was clearly impossible.

The news of this set-back in the advance to Kotlas, which had been regarded as a promising operation, showed that a more cautious programme was advisable. The new plan was first to establish an advanced base at Bereznik; when a reinforcement of 100 rifles could be got to that base the force would seize Seltso, a few miles beyond Troitsa; a further reinforcement of 400 rifles should suffice to carry the expedition on to Krasnoborsk, the last important place before Kotlas; and finally with 500 more men it would be possible to attack Kotlas itself. Captain Altham at Archangel had by now fitted out a third paddle-steamer as a gunboat with two 12-pounders; and another craft, called the *Opit*, was organised as a kind of monitor with four Austrian 3-inch guns² and a

¹ See Map³⁰.

² 76.5 mm.

small howitzer. The four best motor launches also were armed with light guns and maxims.

By this time a couple of British monitors, *M 23* (Lieut.-Commr. St. A. O. St. John) and *M 25* (Lieut.-Commr. S. W. B. Green), had arrived at Archangel from home. They first visited Kandalaksha, where *M 23* remained in support of General Maynard's force, while *M 25* returned to Archangel to join the river flotilla. By special arrangements she was lightened sufficiently to enable her to navigate the shallow channel; and to the river force she appeared a veritable dreadnought. Before she started up river, the dangerous battery at Troitsa was captured on August 18. The combined land and river force then advanced along the banks till on the 20th it was held up by a new battery and by four enemy vessels, which were kept off by the *Advokat* and *Gorodok*. Further advance proved too difficult for the small force, and at the end of August it withdrew to Bereznik, although the river flotilla had been increased by another gunboat, the *Razliv*, and the monitor *M 25*.

The monitor was soon in action. She went up river reconnoitring on August 28, and came under fire. Most of her own ammunition had been landed to give her the requisite shallow draught; but she managed to silence the enemy battery at the cost to herself of 4 killed and 7 wounded. Among the latter was Surgeon John Greenlan Dobson, R.N., who, though he had lost one eye and had numerous shell splinters in his body, continued operating on and dressing the wounded for four hours without showing any sign of the agony he must have been suffering.¹

On the last day of the month Captain Altham, who had been appointed Senior Naval Officer, Dvina River, arrived in a motor launch and took over the command of the flotilla from Lieutenant Cavendish. At the same time the scanty little band of troops was reinforced by a battalion of Royal Scots and another of American infantry; and the expedition, which till then had been little more than a daring raid, took on some appearance of solidity. But in opposition to an advance there was, in addition to the Bolshevik resistance, the approach of winter when the ships would be useless for offence, and moreover almost defenceless against strong attack. The Admiralty had already signified their intention of withdrawing all naval units before the ice formed, and all that seemed possible was to consolidate a position and await reinforcements for the renewal of the campaign in the spring. General Poole abandoned all idea of pushing on to Kotlas.

¹ He was awarded the D.S.O.

before the winter, and decided upon Bereznik as the best site for his winter quarters. It lay near the junction of the River Vaga with the Dvina, and the first step was to clear all enemy parties out of the V-shaped tongue of land between the two rivers. The operation began on September 14. One party of troops began to march up the right bank of the Vaga, while another advanced along the left bank of the Dvina, the objective of the latter being Chamovo, about 15 miles up river from Bereznik. Two gunboats preceded the Vaga force, and the remainder of the flotilla—the big monitor, two more gunboats, two motor launches and a tug—set off in thick fog to cover the advance of the larger party for Chamovo. Monitors are notoriously unhandy craft. *M 25* was no exception, and to keep her in the channel with a strong current swirling among the islands and shoals of the Dvina, and with a thick fog concealing the banks, was a task which called for navigational skill and courage of the highest order. About two miles before Chamovo was reached the flotilla surprised a large Bolshevik gunboat, the *Moguchi*, moored alongside the bank. She quickly made off, and having better speed than the flotilla, was likely to escape, when a couple of well-directed 7.5 shells from *M 25* put her out of action. Her crew took to the water and were picked up by the British flotilla. Just then the fog lifted, and more enemy ships could be seen fleeing up river. They too had the better speed, and were soon out of sight round a bend.

The village of Chamovo was surrounded by thick woods, affording an enemy excellent cover. The plan of operations pre-supposed that as soon as gunfire from the shore was silenced by the bombarding ships the troops would be in a position to occupy the village from the rear. But the fog which had delayed the naval advance several hours beyond the scheduled time even more seriously hampered the troops ashore. There was no sign of them; and as the position of the ships, surrounded at short range by thick woods which might conceal enemy batteries, was felt to be uncomfortable, Captain Altham decided to land a naval party to hold the village till the troops should arrive. The party were no sooner half-way through the village than they came under heavy fire; the ships could not themselves use their guns for fear of hurting their own men, and Captain Altham had to order a retirement to give his guns a chance to attack. He halted the landing party at the river bank, and firing over their heads, soon reduced the attackers to silence. Still the troops, now hours overdue, showed no signs of their presence; the ships again came under fire from concealed guns in two

directions, and since ships alone cannot hold territory, Captain Altham decided to withdraw to Bereznik. The fog had cleared, and on the way back the flotilla was frequently fired on by concealed guns on both banks.

Although the operation seemed at the moment to have had no better result than the sinking of a Bolshevik gunboat, it had been a real success. That evening, after the withdrawal of the flotilla, the Royal Scots entered Chamovo without resistance. Further, the moral effect was such that enemy river craft no longer attempted to stand, but in subsequent encounters used their superior speed solely to escape. Hearing that Chamovo was occupied, Captain Altham next day sent the monitor up in support; she arrived in time to sink a Bolshevik steamer which had attacked an outpost ashore. The whole flotilla then moved up to Chamovo. On the way the leading gunboat reported mines in sight, and Captain Altham embarked in a motor launch to investigate. One of the mines could be seen above the surface; and just as all was ready to sink it, the boat's engines failed and the current carried her right on to the horns. The explosion blew off the stern of the motor boat and killed two of the crew; Captain Altham, almost miraculously, escaped with bruises and torn clothes. He rapidly improvised a sweeping service, which, by the end of the month, destroyed twenty-four mines and cleared the channel as far as Pushega, some 50 miles above Bereznik.¹

The difficulties and dangers overcome by the river flotilla were equalled by those confronting the land forces. In the finest weather the almost pathless *tundra*, with its treacherous bogs and equally treacherous woods where an enemy can lie ambushed, is trying ground for troops on the march; but when, in addition, its uncertainties are magnified by thick fog, and myriads of summer mosquitoes madden the men, an advance becomes a nightmare. On the river the crews of the flotilla were comparatively comfortable; the more serious physical trials fell on the rank and file ashore. It was a fine achievement that in a few short weeks they cleared the surroundings of the winter quarters at Bereznik of the enemy and converted the place into a strong military position. But the ice period was now rapidly approaching; and, in accordance with Admiralty orders, the flotilla was withdrawn from the river by October 7. Before leaving, Captain Altham landed several of its guns and their naval crews mounted them ashore in order to augment the small artillery force at Bereznik.

¹ See Map. 30.

It needed all the guns available, for though Archangel was about to freeze up, the Dvina itself remained navigable for at least ten days longer. The Bolsheviks were therefore able to bring gunboats down to assist their land forces; and they so harassed the advance posts 60 miles from Bereznik that on October 17 it was decided to withdraw to the line Kurgomin-Tulgas, 20 miles further back. Even a fortnight after the departure of the naval flotilla, the river did not freeze. Winter was exceptionally late that year, and the position had to endure two severe attacks before the welcome ice appeared. In the last assault, on November 11, a force of 1000 Bolsheviks supported by gunboats delivered an attack on both sides of the river. It ended in disaster for the enemy; and the Royal Scots, by capturing the road on the left bank, cut the normal line of retreat for most of the Bolsheviks. Only the woods and swamps were left to them; many died from hunger and exposure; and eighty who reached the Vaga in sad condition surrendered gladly to our force.¹ Then came the frost and winter, and all movement ceased for the year.

In France the course of events throughout the summer and autumn had been so disastrous for Germany that early in October most of the German troops in Finland were moved to the French front and strong attacks on the Murman railway were no longer probable. Parties of aggressive Finns were defeated at intervals by the Korel troops serving under General Maynard, who by November 11 held the railway as far south as Soroka and was guarding the frontier between Finland and the Korel province. In effect, therefore, the Allies were helping to protect the independence, as against the Bolshevik Central Government, of the region bounded by a line drawn along the Finnish frontier, thence across to the shores of the White Sea and south from Archangel to Obozerskaya on the railway and Kurgomin on the Dvina. They had been unable to join hands with the Czechs, who, though they were west of the Urals, were held up on the Ural river. Siberia was now an independent state, in which large numbers of Siberians and Cossacks were drilling more or less regularly. In the south an anti-Bolshevik force under General Denikin occupied the region between the Black Sea and Volga. Elsewhere in European Russia the Bolshevik military hold on the country was unchallenged. Even if the Allies decided upon active intervention in Russia it was improbable that any advance from Archangel would be possible unless major operations from the south or east brought about a practical

¹ Major John Ewing: *The Royal Scots*, Vol. II., p. 752.

collapse of the Bolsheviks. If that should occur, a well-trained Russian force at Archangel, stiffened by a small proportion of Allied troops, might accelerate their complete downfall; General Poole was therefore ordered on November 5 to confine himself to the defensive and to concentrate on the training of a Russian army.

It was to help to organise the Russians for defence against the Germans that he had been sent. Unfortunately, the mass of the Russian people showed little desire to help themselves. Their attitude was fatalistic; they were ready to accept whatever might happen to them, without taking any steps to influence the course of events. From the Murman region, certainly a sparsely inhabited area, only 360 Russians had volunteered to serve; but even in the Archangel district, with a vastly larger population, the total number of Russian recruits was only 1900. The Korels in the Murman region, separate from these, did not object to defend their own province against invasion, but they refused to fight outside it. However, it was doubtful whether the Russians would fight anywhere, without support; the only certainty was that Trotsky's formidable Bolshevik army would re-occupy and absorb the northern regions as soon as the Allies withdrew. To judge from the usual behaviour of Bolshevik troops, it would be a terrible day for Russians who had been assisting the Allies, when the Allies departed. This, then, was the dilemma in which the Allies found themselves when Germany laid down her arms: either their friends must be abandoned to the ferocity of Trotsky's bands, or the inglorious, expensive and apparently fruitless campaign in North Russia must be continued—how long and with what final result, no one could say. For the moment, however, evacuation of the Archangel forces was in any case impracticable. They were imprisoned in a wall of ice until the summer of 1919 should open up the sea approaches again. For strategical, as well as for political reasons, withdrawal of the Murmansk forces could not be contemplated while Archangel was isolated.

CHAPTER X

AFTER ZEEBRUGGE—THE MINING OPERATIONS IN THE NORTH SEA AND THE U-BOAT OPERATIONS ON THE AMERICAN COAST

THE concentration of U-boats upon the outer approach routes during the second half of May was accompanied by an attack against traffic running from the great American ports of shipment:—the starting-points of the great procession of armies which were moving across the Atlantic with such stern and ominous regularity. The attack was started, late in May, by *U 151*.¹ The Americans had been warned of her approach and were ready; ships moving northwards to Halifax to join the transatlantic convoy, were formed into a coastal convoy and put in charge of a small cruiser. The first of these convoys sailed on June 6, after which a series of coastal convoys sailed at regular intervals. The movements of troops and supplies were thus uninterrupted.

The anti-submarine campaign was now being prosecuted on both sides of the Atlantic, and the operation at the eastern extreme of this great theatre—the mine barrage in the North Sea—was well advanced. On June 8 the British minelayers, under the direction of Rear-Admiral L. Clinton-Baker, laid the first mines in the eastern section; simultaneously, the American minelaying squadron put down a very large minefield in the central portion.² But it was not long before disturbing reports began to come in from the ships which Admiral Tupper had stationed on the fields. The first was from the trawler *Tenby Castle*, whose skipper reported that between June 8 and 15 he had heard twenty-eight distinct and about thirty distant explosions, while patrolling on the western end of the minefield.

The matter was at once brought to the notice of Rear-Admiral J. Strauss, the commander of the American minelaying forces. He answered that these premature explosions would not "materially affect the efficiency of the minefield" 3385 mines had already been laid and only 150 had exploded.

¹ See Map 31.

² See Map 17.

This proportion would be reduced by a special mechanical device which was then being delivered.

Meanwhile the local authorities at Scapa and Kirkwall were writing urgently to Whitehall about the unsuccessful operations of the northern patrol. Captain H. T. Walwyn, who had been appointed to the *Implacable* as an expert in hydrophone operations, reported that communications between the patrol craft were rudimentary owing to lack of appliances, and that the force needed a better supply of equipment, and, above all, more supporting ships. The Commander-in-Chief endorsed this opinion and added to his letter a piece of technical criticism which requires explanation. In Admiral Tupper's general plan of operations, the divisions of hydrophone trawlers were concentrated in three zones—each twenty miles square—which covered the corner round Fair Island. The ordinary or "sentry" trawlers were distributed over zones to the east and west of this central group. The purpose of these dispositions was to drive all passing submarines towards the centre of the channel, where the sound of their engines could be detected by the hydrophones. Each hydrophone division was supported by a sloop, which could press the chase. During the operations to the north of the Shetlands, it had been found that the outpost trawlers hampered the hydrophone units more than they assisted them, and the Commander-in-Chief now urged that they should be withdrawn altogether.

The Admiralty replied that the persistent hunting of submarines had proved that U-boats could be followed for a considerable length of time, provided the hydrophone apparatus were used intelligently; and this continuous harrying of east-bound and west-bound submarines justified the maintenance of the patrol. On the question of outpost trawlers they agreed with the Commander-in-Chief, and ordered that they should be dispersed to the areas from which they had been taken.

The rapid progress in the laying of the Northern barrage was accompanied by another development in our defensive system. It has been shown that the destroyer escorts of the fast American convoys were now taking ships right through the Irish Sea and the Channel, to their ports of entry. It had for some time been considered advisable to give this additional protection also to the slower convoys from Hampton Roads and Sydney, and before the end of June the new system was working. Henceforward the Buncrana escorts for the Hampton Roads and Sydney convoys went direct to the rendezvous, and on approaching the North Channel were met by two additional destroyers. After receiving this reinforcement, the convoy was divided: one section of the escort

took the Clyde ships to Cumbræ, and the other went up to Liverpool. The Clyde section of the escort then went on to Lamlash to take out an outward convoy composed exclusively of ships from the Clyde and Belfast, and dispersed them on or beyond the tenth meridian. The escorts which had gone on to Liverpool conducted a slow outward-bound convoy called OLB, and returned to Buncrana after its dispersal. By the end of June, therefore, nearly all ocean-going vessels in the Irish Sea were under escort.

There was a sharp fall in the losses incurred in the Irish Sea during the month; but this was due rather to the return of the U-boats to the outer approach routes than to the stiffening of our defensive system. The number of operating U-boats was not appreciably lowered, and the Northern barrage and the patrol forces stationed there were, as yet, proving no obstacle.

To all outward appearance the war at sea was still a quite indecisive succession of attacks, ripostes, counter-attacks and counter-ripostes, yet it was during these monotonous days that the naval campaign was definitely won. The exact date of the Allied naval victory is difficult to determine, for it is not announced in the despatches of a naval commander, or in the log books of vessels engaged in a great action, but in a few columns of statistics kept in an office in the centre of London. The historical importance of these figures is equal to that of Collingwood's despatch after Trafalgar or Joffre's Order of the Day before the Marne. Since the beginning of the year the monthly balance sheet of British mercantile tonnage had shown a fluctuating return of losses and gains. There had been a net loss in January and February and a net gain in March and April. In May there was a loss, though a smaller one; and in June a slightly adverse balance was declared. Notwithstanding this, there were more ships available for service at the end of the month than at the beginning. The reason was that the building of new ships and the repairing of damaged ones were now very much accelerated; about one hundred and forty thousand tons of shipping were now being built month by month in British yards, and about seven hundred thousand repaired for wear or for damage. These figures proved that the British Empire, alone and without assistance, was now holding the submarine campaign, for only about one hundred and seventy thousand tons were now being lost monthly, from all causes. But the British figures of losses and gains were not the only relevant statistics. Nearly a year before Erzberger had pointed out that the success or failure of the submarine

campaign would be settled by the reduction of the world's shipping rather than by that of Great Britain alone. When uttered, Erzberger's opinion was rather wide of the mark; but in June 1918, when the merchant navies of neutral Europe were practically running under British charter, when the United States were throwing the output of their yards and industries into a common pool, the world's output of shipping was in fact the decisive figure, and during this second quarter of the year 1918 it exceeded the losses for the first time since 1914.¹ This was success in its most comprehensive sense; and from midsummer 1918, British operations at sea may be regarded as measures for holding that accumulation of small advantages which taken together constituted victory.

This great victory at sea had passed almost unrecognised. Public attention was still divided between the battles in Flanders, where the Allied armies were still staggering and reeling under the German onslaught, and operations at Zeebrugge and Ostend, which had just been announced as far-reaching successes. The columns of figures that recorded the victory were not suitable for issue as bulletin news: even if they had been published, few persons would have grasped their immense significance. To give them their proper emphasis, to show that they registered a victory as remarkable as any in British history, was impossible in the circumstances. It would have been necessary to relate those figures to all that was taking place by land and by sea.

Moreover, the victory had been gained by a composite exertion. With the exception of the convoy system, which was still an unqualified success, and to which the Germans had discovered no counter, every single measure at sea had been more or less disappointing. The mining of the Bight had, in the end, given a definite result; since February, submarines from the German bases had practically abandoned the Bight routes, and had used the Kattegat almost exclusively. The minefield laid in the Kattegat itself had not stopped them. This had shortened the productive period of each submarine cruise by something like four days, and had been partially responsible for the fall in the sinkings in Home waters. It was none the less disappointing that the only result of a measure upon which such immense quantities of material had been expended should have been that German submarines took rather longer to reach their cruising stations. The Germans had, moreover, made the exertion

¹ The excess amounted to over 280,000 tons. For the exact figures, see Fayle, *Seaborne Trade*, Vol. III. p. 467.

necessary for neutralising the disadvantages of the Kattegat route; by hurrying on repairs, hastening reliefs and shortening the leave given to crews returning from the cruising grounds, they had contrived to keep about the same number of submarines in the approach routes.

The Northern barrage was not yet very far advanced.¹ Admiral Tupper's patrol squadron now numbered some seventy-six units. During the month of May, his squadron had worked continuously on the western side of the barrage, and had successfully harried the German submarines on the north-about passage. But the operations had been little but exciting and well-organised chases. In the words of the captain of the *Implacable*, the weak point had been the actual killing.

Elsewhere the purely naval campaign against the submarines was also a disappointing record. During the month of May the enemy's submarine losses had, it is true, been exceptionally severe: seventeen German boats had been lost from all causes; that is, nearly three times as many as had been destroyed in the previous month. But a careful examination of these losses showed that the enemy had suffered from extraordinary misfortune, and that we could not possibly count upon keeping the monthly destruction at such a figure.² It was indeed about to fall sharply.

The intensive patrol on the deep minefields in the Dover Straits, which Admiral Keyes had instituted in January, had been subjected to all the hazards of the sea. Yet in spite of these setbacks, the patrol had given better results than any other operation or complex of operations against the German submarines, in that it had inflicted regular and continuous loss upon them. Since the beginning of the year ten German submarines had been destroyed in the Straits, an extraordinary contrast to the destructions during the previous year.³ In consequence of this, all the larger

¹ See Map 17.

² The losses in Home waters were:

U 103, rammed by H.M.S. *Olympic* in the Western Channel.

U 154, sunk by submarine *E 35* in the Atlantic.

UB 16, sunk by submarine *E 34* in the southern part of the North Sea.

UB 31, Dover Straits minefield.

UB 72, sunk by submarine *D 4* in the Channel.

UB 74, sunk by a depth charge from the yacht *Lorna* in Lyme Bay.

UB 78, rammed by the transport *Queen Alexandra* in the Channel.

UC 49, bombed by aeroplanes, trawlers and destroyers in the North Sea.

UC 75, rammed by H.M.S. *Fairy* in the North Sea.

UC 78, Dover Straits minefield.

UB 119, lost: causes and position doubtful.

³ See Appendix E.

German submarines had been ordered to use the north-about route.

Since February, therefore, when the order was issued, about six days of each U-boat cruise were spent unproductively. This was certainly a great result, but it was not the only one. As has been explained,¹ the German High Command recalled a part of the Flanders submarine flotilla to Germany during the summer because the difficulties and dangers of the Dover Straits had become so great that it was thought best to reduce the submarines operating in the Channel, and to open a new zone of operations off the east coast of England. In this new zone UB- and UC-boats of the smaller type operated with some success to the end of the war, but never with such destructive effect as in the Channel. The minefield patrol designed by Admiral Keyes must thus be regarded as the most successful of all the offensive measures taken against the German submarines. He and his officers had succeeded in subjecting the enemy to that continuous harassing attack which is the essence of offensive warfare by land or by sea; by so doing they had compelled the enemy to reconsider their plans, to redistribute their flotillas, practically to abandon an entire zone of operations, and to substitute for it another, not nearly so fruitful. No other plan of counter-attack had given results comparable to this, so that it is no exaggeration to say that the plan of operations conceived in the winter of 1917 and prosecuted with such ruthless energy to the end of the war was both a model and an incentive to the entire service.

Yet, it is evident that, as all measures combined were not inflicting an average monthly loss, which was greater than the Germans could bear, the general counter-attack upon the enemy's submarines was still indecisive, indeed it may be said to have failed. The enemy's submarine fleet had not, in fact, been defeated, but the campaign they were conducting had been mastered.

In the early months of the unrestricted submarine campaign the German U-boat captains had been sinking 700 tons of shipping a day; the figure had fallen to 330 during the last quarter of 1917; it was now at about 275 and was still declining. Twelve months previously, therefore, the German submarine commanders had been a danger to the Empire and to the Alliance: they were now only a danger to unescorted ships and their crews.

The mine barrage across the North Sea was still the principal operation in the British war plan. Early in July, the Northern patrol was strengthened by the leader *Markesman*,

¹ Ante p. 275.

which was detached to Lerwick from the 12th Flotilla. Three days after she arrived (July 7), Captain Walwyn sailed in her to take charge of an operation which seemed as promising as any that the Northern patrol had as yet undertaken. The Admiralty had information that a large cruiser submarine would be passing south of the Faeroes, homeward bound, on about July 12. Late in the afternoon of that day, therefore, a composite flotilla of destroyers, sloops and trawlers¹ reached a point about seventy miles north of the Shetlands, which was believed to be the eastern end of the submarine's most probable track between the two groups of islands. From here they began to sweep westwards, in a rough quadrilateral formation sixteen miles broad and seven miles deep. When the hunting flotilla reached its patrol line the weather was wild and stormy, and all that night and the day following the trawlers, sloops and destroyers pounded through a tremendous sea which swept their decks and smothered them in spray. There was no thought of putting out the hydrophones, and indeed towards noon Captain Walwyn ordered the trawler divisions to close the centre of the formation, as thick banks of mist were then being blown across the squadron by the gale.

It was not until six o'clock on July 13, when the flotilla was nearing the western end of its sweep, that Captain Walwyn was able to order the hydrophones to be put out; by noon the flotilla had actually reached the limiting point of its search, and turned sixteen points. Two hours later the *Syringa* and the 11th Division of trawlers, in the centre of the line picked up the sounds of a submarine. The *Marksman* closed them, and the hunt went north-westwards towards Trangisvaag Bay in Sydero, the southernmost island of the Faeroes. All that afternoon, and during the night that followed, the sounds came intermittently from the direction of the bay; early on the morning of the 14th a trawler thoroughly searched the bay, but found nothing.

The remainder of the flotilla had remained near the eastern end of the line of sweep; and whilst the trawler was searching in Trangisvaag Bay, the 13th Division reported that they had picked up a submarine about twelve miles to the

¹ Leader *Marksman*.

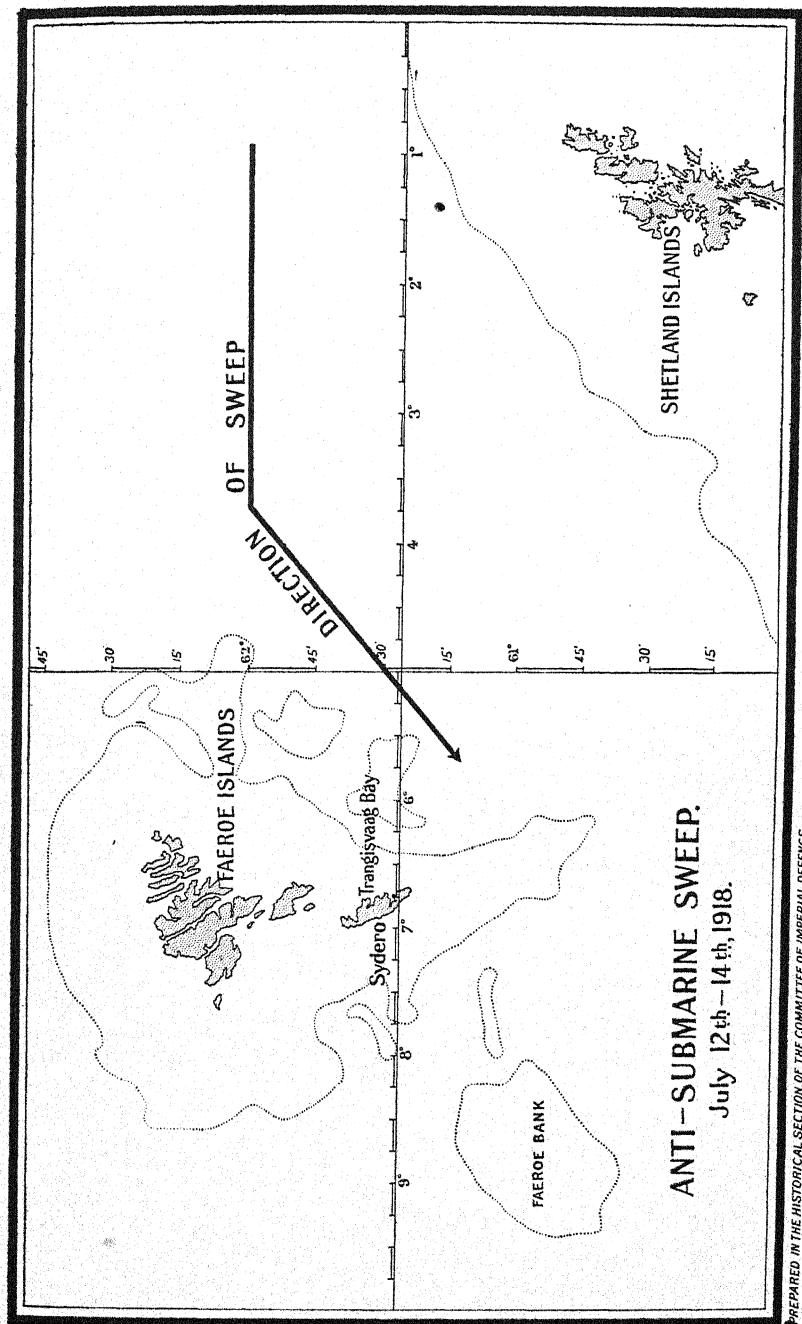
Sloop *Harebell* and 2nd Division of trawlers.

" *Aubretia* and 4th Division of trawlers.

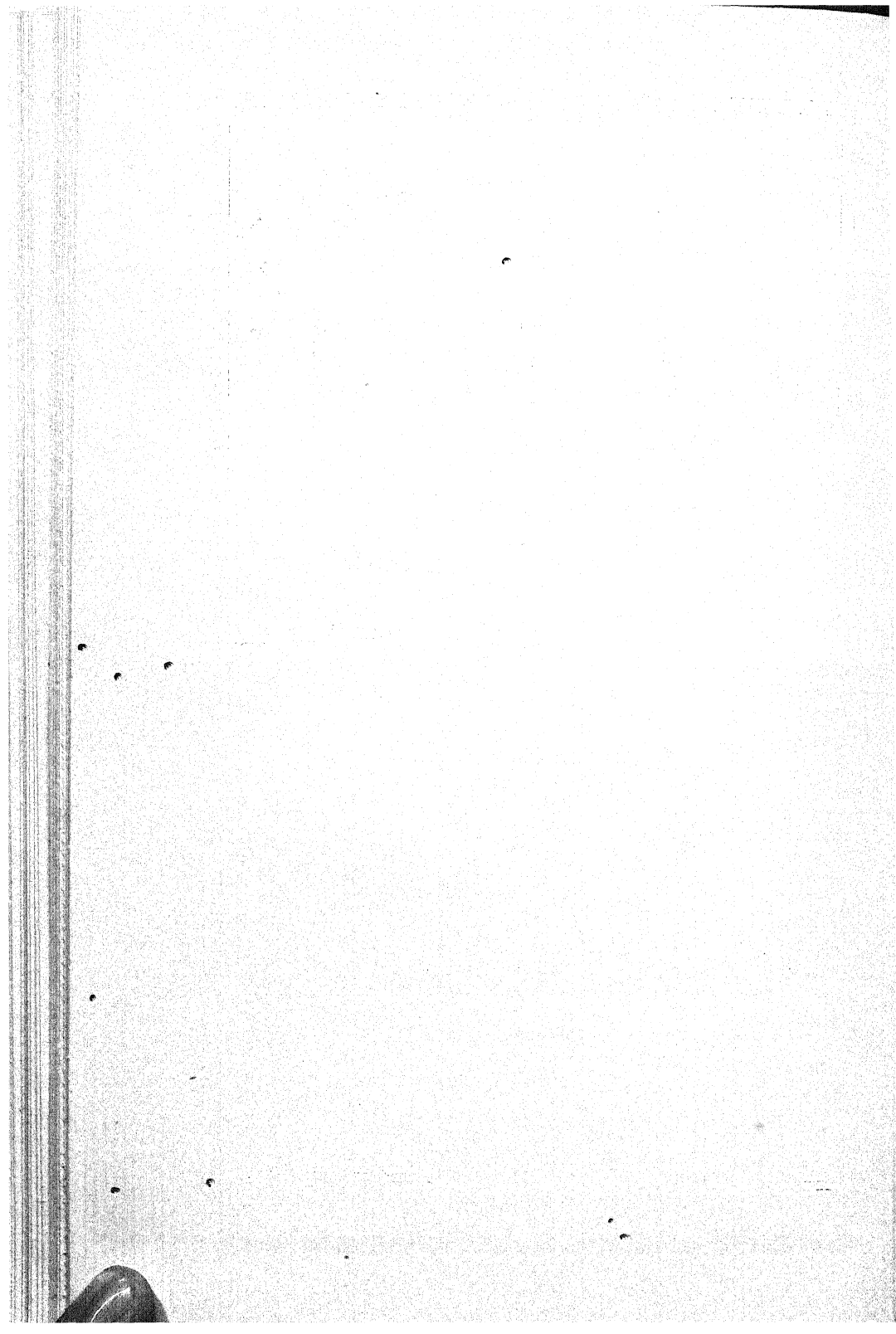
" *Syringa* and 11th Division of trawlers.

T.B.D. *Beagle* (detached from Devonport) and 13th Division of trawlers.

" *Foxhound* (detached from Devonport) and 15th Division of trawlers.



PREPARED IN THE HISTORICAL SECTION OF THE COMMITTEE OF IMPERIAL DEFENCE.



south of Sydero Bank. Captain Walwyn now stationed the 11th Division across the mouth of Trangisvaag Bay and made away to the south to follow the new scent. He came up with the flotilla at about three in the morning and found that they were in perfect formation, chasing north-eastwards after a submarine which sounded very near. Just after seven o'clock the direction of the chase turned sharply to the south-eastward. The U-boat seemed hard pressed; the hydrophone listeners reported that the Germans were alternately starting and stopping their engines, and were less than three miles away. At a quarter-past ten, the commanding officer of the *Beagle*, on the lower, left-hand corner of the formation, estimated that the submarine was 600 yards ahead on a steady course. He at once began to run a line of depth charges in her direction.

Captain Walwyn considered that the depth charges had been put down too soon; and so it proved, for the sounds of the submarine's motors were next heard from the north-westward, the rumble in the hydrophones was faint, and she had evidently increased her lead. None the less, the sounds were strong enough to enable the chase to continue; and all that afternoon the flotilla followed the submarine on a track which ran to the south-eastwards with frequent deviations. The 11th Division, which was still off Trangisvaag, reported that all was quiet, but Captain Walwyn ordered it to remain where it was.

Just after four o'clock the flotilla seemed again to have got near to the submarine, and for two hours the sounds were very distinct. At six o'clock it appeared almost certain that the submarine was ahead, and ten minutes later the commanding officer of the *Beagle* ran a second line of depth charges. The submarine was not heard again; and she evidently escaped whilst the flotilla lay to, waiting for the result of the depth charge attack. At nine o'clock a dense fog came up from the south-east and the hunt was over.

This long chase was typical. The flotilla, supported by three fast vessels, had been continuously on a submarine's track for about sixteen hours, and had presumably caused the U-boat commander and his crew great anxiety during the whole period. If there had been any means at all of keeping on the heels of the U-boats during their effective cruises, this hunting and tracking would have reduced shipping losses to almost nothing; for if a fleet of unarmed merchantmen had been passing over the U-boat whilst Captain Walwyn and his flotilla were on her track, the German could have done nothing.

But a sixteen hours' chase, in a zone where there was no merchant shipping to be attacked, did not affect the destructive capacity of a U-boat which might be thirty, or even ninety, days at sea. It was at the least an annoyance, at the most an anxiety to the quarry. As for the repeated appeal that more fast vessels should be allotted to the patrol, it was natural that officers who would cheerfully remain on watch for eighteen whole hours at a time, and never slacken their vigilance so long as a submarine was thought to be near, should ask for more ships and men. Their thoughts were dominated by the keenness of the chase, and the keenness of their disappointment when time after time the quarry got away, as it seemed by a narrow margin. But during this last operation fast ships had been attached to the flotilla, and the result had been a longer hunt, and a proportionately greater disappointment. The Admiralty, who could place the daily incidents of the submarine campaign in a wider perspective than officers stationed in a particular zone and absorbed in the actual operations, were probably aware that Captain Walwyn and the Commander-in-Chief were complaining not of material and equipment but of the difficulties of submarine war; and that an improvement in hydrophone design, or an allocation of more destroyers to the patrol, would produce nothing but longer and keener hunts, which would not lead to any decisive results.

Meanwhile minelaying upon the barrage was continued with relentless energy by the British and Americans, but the mechanical device, upon which Admiral Strauss depended for reducing the number of premature explosions in the American minefields, did not seem to improve matters. During July the trawler skippers had the same story to tell of explosions that were sometimes heard loud and close at hand, and at other times faintly and distantly.

On July 20, Admiral Tupper sent to the Commander-in-Chief a tabulated list of all the explosions heard during the previous week. Soon afterwards he sent in another paper, more systematically divided than the first, and if he had remained on the northern patrol for much longer, this journal of premature explosions in the American minefields would presumably have been sent in at regular intervals, and as a matter of course.

The Commander-in-Chief also doubted the minefield's efficacy, though for other reasons. On July 15 he wrote to the Admiralty to say that two of the most recently laid American minefields, which were eighty feet below the water,

could not be relied upon to do more than shake a submarine passing over them on the surface. He had only agreed to the laying of this immense barrage inside the Grand Fleet's zone of manœuvre because he had been assured that it would be an obstacle which no German submarine could traverse, and was correspondingly disappointed when he found that the Grand Fleet's freedom of manœuvre had been seriously restricted for a doubtful advantage. The Admiralty admitted that a mine would only destroy a submarine upon the surface if it exploded within fifteen feet of the hull; and added that double the number of mines that were actually being laid would have to be put down if the barrage were to be made effective, in the sense that the Commander-in-Chief gave to the word. The Admiralty stated, however, that German submarine commanders were avoiding the central area altogether, which proved that they at all events considered the barrage to be a real danger. The project was, therefore, well worth completing.

Meanwhile the German U-boats were operating in the outer approach routes in two groups. The first was in the north-western approaches to the northern entrance to the Irish Sea, the second in the quadrilateral between Ireland, Land's End and Ushant. The German submarine commanders were evidently not deterred or discouraged by the failure of their attacks against the convoys in May; and though their second attempt was not appreciably more successful than the last, they showed that they had learned by experience, and were able to subject incoming convoys to repeated and successive attacks.¹ As there was every chance that these attacks would increase in intensity, the Admiralty decided to move the northern patrol to Buncrana. In its new station it would at least bring relief to the incoming convoys by keeping a certain number of submarines engaged in their own defence. Admiral Tupper was therefore ordered to turn over his command to Captain Walwyn.

Enemy submarines were still operating off the American coast, the extreme edge of the submarine theatre; but although they were attacking shipping with complete immunity to themselves, the damage they were doing was trifling. They were certainly destroying a fair number of sailing ships and steamers engaged in coastal traffic; but overseas ships and the transatlantic convoys were untouched. The local convoys continued to run to Halifax without molestation; and actually the American authorities increased

¹ The torpedoing of the large liner *Justicia* on July 19 was a typical instance of concerted submarine attack.

the scope of the convoy system whilst this submarine activity on their coasts was rising in intensity. The numbers of ships in the New York, Hampton Roads, and Sydney convoys had increased steadily during the year. During June, Captain P. N. Layton, R.N.R., of the *Dara*, had brought a convoy of forty-seven ships safely across the Atlantic, a truly wonderful piece of good leadership.¹ But elastic as the system had been, there were some strains that it was obviously unwise to impose indefinitely. In order to reduce the size of these great mercantile convoys, therefore, the Americans agreed that all ships which were capable of maintaining nine knots and were bound for the Bay of Biscay ports should be taken from the New York convoys and put into the American Bay of Biscay convoys. This new arrangement came into force on July 24, whilst *U 156*, the latest arrival, was operating off Boston.

When the Admiralty decided to move the forces of the Northern patrol to Buncrana they restricted the scope and purpose of the Northern barrage. The plan as conceived and originally executed was a project for forcing submarines into deep minefields by harrying them whilst they were on the surface. When the patrol craft were withdrawn, one-half of the plan was virtually abandoned, and from then onwards the mine barrage was more a dangerous obstacle than a death-trap into which our surface forces were to drive the German submarines. But this alteration of plan was accompanied by no relaxation of effort. The American minelaying squadron was now at full complement and was working with great regularity.

There were, moreover, now two barrages in the North Sea, the northern one, which has already been described, and the southern one, across the Heligoland Bight. This second, older barrage, which had originally been laid to keep submarines in harbour, and had proved useless for the purpose, was still maintained as an auxiliary to the Admiralty's policy of postponing a fleet action. The allocation of the large minelayers to the Northern barrage threw the work of maintaining the other barrage upon the minelaying destroyers in the Humber, and upon the minelaying submarines at Harwich. The south-western exits from the minefield were patrolled from Harwich, the north-eastern from Scapa, and thanks to the development of small craft design, and the growth of the air service, means had now been discovered of conducting these minefield reconnaissances inside the mined area. Since June, Rear-Admiral Tyrwhitt had been sending coastal motor boats across the mines, towards the mouth of the

¹ The escort ship was U.S.S. *Columbia*.

Ems, with orders to attack all the sweepers that they could find. The fifth of the reconnaissance sweeps began at 9.0 p.m. on August 10, when four light cruisers and thirteen destroyers¹ sailed from Harwich for a point about twenty-five miles north-west of Vlieland. This point was reached just after six o'clock on the following morning, and the motor boats started at once on a run which was to take them past Ameland. The seaplanes could not get away for a somewhat unusual reason: it was a very fine morning, and the planes were unable to get off the water because not a breath of wind was stirring. The coastal motor boats therefore made their start to the eastward with no aeroplane escort.

Admiral Tyrwhitt did not recall them, as arrangements had been made for a flight of planes from Yarmouth to meet the force. They did arrive shortly after seven o'clock, but Admiral Tyrwhitt's signals to them did not get through, and they acted independently for the rest of the morning. Meanwhile the six coastal motor boats had reached Terschelling and were moving at high speed close to the shore. They were cruising in pairs arranged in a rough quarter-line, for the water through which the boats moved was so churned and beaten by the enormous bow wave, and by the commotion of the propellers, that no boat could steer in another's wake. As the flotilla swept past the low sand dunes of Terschelling, which were bright and clear in the sunlight, six aeroplanes were sighted: three were ahead and three astern. Lieutenant-Commander A. L. Coke, who was in charge of the flotilla, at first thought they were friendly, but in a few moments he saw large black crosses—the distinctive marks of German aircraft—upon the under side of the wings. The flotilla now closed, so as to concentrate the fire of their Lewis guns; and the aeroplanes—there were by this time eight of them—opened fire with their machine guns. Lieutenant-Commander Coke decided to go on with his reconnaissance,—

"It seemed to me," he wrote, "that I was bound to be attacked by other machines whatever I did,"—and for half an hour the fight continued without much result. The aeroplanes swept up towards the motor boats from astern, firing through their propellers; when they reached the motor boats

¹ Light Cruisers: *Curacoa, Coventry, Concord, Danae.*

Destroyers: *Spenser, Tempest, Sharpshooter, Radiant, Bruce, Stork, Springbok, Tetrarch.*

| | |
|------------------|-------------------------------------|
| <i>Retriever</i> | } with seaplane lighters. |
| <i>Thisbe</i> | |
| <i>Teaser</i> | |
| <i>Redoubt</i> | } towing an aeroplane on a lighter. |
| <i>Starfish</i> | |

they rose sharply, and flew back to a position well in the wake of the flotilla. The coastal motor boats were moving through the water at well over thirty knots: the aeroplanes through the air at about sixty or eighty. It was certainly the fastest action ever fought at sea. From time to time the German aeroplanes dropped bombs, but none made a hit, and just before eight o'clock Lieutenant-Commander Coke turned to the westward. Ameland lighthouse was then abeam. Up to now the flotilla had held its own; it had suffered no serious damage and one of the enemy's planes had been seen to come down sharply; but as soon as he turned to the westward, Lieutenant-Commander Coke saw that the fight was likely to go against him. The Germans now had the sun behind them, and were reinforced by four small fast aeroplanes each armed with two guns. These machines, according to Lieutenant-Commander Coke, "caused more trouble and did more damage than the eight that had appeared previously."

During the next quarter of an hour the coastal motor boats suffered, and at 8.15 they had practically ceased to fire: in some the guns had jammed; in others the ammunition was gone. The Germans now flew over the boats almost at point-blank range. The crews of two boats—Nos. 40 and 44—were then firing their last rounds; they hit one of the German planes heavily and she crashed into the sea. A few moments later the last of the boats ceased firing and the engines of all began to give out. Besides this their condition was desperate; a machine-gun bullet had pierced the smoke apparatus of one of them, and the crew were half stifled with the fumes; another was so riddled that "one could almost see through the side in places." Only one was able to keep the engines moving. The flotilla was then between three and four miles from the land. One boat—No. 41—reached the shore, where the Dutch authorities took charge of her; and a Dutch torpedo boat came up later and took two others in tow. The remainder were sunk in deep water; not one of the flotilla returned to the supporting force.

When the motor boats were finally abandoned, Admiral Tyrwhitt was cruising near the rendezvous; he was endeavouring to entice a Zeppelin out to seaward and did not guess that the flotilla was in danger. When the airship was seen to be following the squadron, Lieutenant S. D. Culley, R.A.F., took the air in a Camel aeroplane which was being towed on a lighter. He rose rapidly, and a few minutes later he was out of sight in the clouds. The Zeppelin remained

in the sunshine until about 9.30, when she, too, passed out of view. Ten minutes later the officers and men in the ships heard the rattle of machine gunfire in the clouds above them. It lasted only a few seconds; they then saw a sheet of flame sweep across the white cloud bank, and a shower of splintered metal fall from it. Lieutenant Culley had destroyed his enemy in those upper regions of the air from which neither sea nor land is visible.

The Zeppelin (*L 53*) was destroyed at a quarter to ten, and there was still no sign of the coastal motor boats: Admiral Tyrwhitt ordered the *Concord* and two destroyers to sweep north from Terschelling, and the *Coventry* and two more to sweep towards the Haaks. At about eleven o'clock he asked for another flight of aeroplanes from Yarmouth; they reached him well on in the afternoon, and reported at half-past five that they had swept to the eastward over the minefield and had seen nothing. Two of the coastal motor boats had by then been in Dutch hands for many hours; the remainder were sunk in the sands of the Ameland flats.

It fell to the Grand Fleet to patrol the northern and north-western ends of the minefield, and here the procedure was different. The object of the Grand Fleet reconnaissances was not to attack the enemy's sweepers, for regular sweeping operations seem to have ceased at the northern end of the Bight. The enemy's airships were, however, continually patrolling the Bight, and it was against them that our sweeps were chiefly directed. The air arm was called more and more into service; and after May the *Furious* sailed at regular intervals for some point on the outer edge of the minefield, and sent up a flight of planes. The operations were uneventful; on one occasion the *Furious* and the light cruiser forces were bombed by the enemy's aircraft; but no engagements occurred between the British aeroplanes and the enemy's Zeppelins. The most important of these operations was carried out on July 19, when two flights of aeroplanes, carried in the *Furious*, bombed the Zeppelin shed at Tondern. Nearly three years before, a similar operation had brought the High Seas Fleet out of harbour; but on this occasion the enemy made no move. The heavy covering forces which covered the raid returned to harbour with nothing to report.¹

Whilst the patrol forces and minelayers were carrying on

¹ Force A. *Furious* and three destroyers; 1st Light Cruiser Squadron and five destroyers.

Force B. 1st Division of the 1st Battle Squadron and eight destroyers; 7th Light Cruiser Squadron.

the mining campaign with such unrelenting energy, the U-boats off the American coast were endeavouring to stop that flow of supplies and men which was more and more evidently the nourishing force of our coming advance. There were now three of them off, or near, the coast: *U 156* was off Nova Scotia and *U 140* off Chesapeake Bay; *U 117* was approaching. In order to protect ships going round the coast to their ports of assembly, orders were given early in the month of August that vessels going from New York to Sydney to join the HS convoys should sail in groups; in addition to which the HC convoys were henceforward sailed in two groups which met at a prearranged rendezvous.¹ These measures, joined to those taken in the previous months, secured the convoys against loss or disturbance. Indeed, if the actual achievements of these submarines are placed side by side with figures and statistics exhibiting the results which it was hoped they would effect, the failure of their operations is apparent. From the time of their first arrival to the middle of August, when their activity was in its meridian, the U-boat commanders on the American coast had sunk thirty-six sailing vessels—some of which were mere coastal craft of between 20 and 50 tons—and twenty-nine steamships of all sizes. The total destruction was, therefore, numerically considerable. But during this same period convoys had passed through the new U-boat zone without loss. These convoys were the real quarry, and they had escaped entirely. On the American coast, as indeed in every other theatre, U-boat operations had ceased to be operations for a large strategical purpose and had become no more than sporadic attacks upon trade.

By the middle of August the minefields of the Northern barrage ran between the 59th and 60th parallels from the meridian of Greenwich to Norwegian territorial waters. It was the eastern section which gave rise to the most serious doubts and difficulties. When completed it would cover a rough quadrilateral between the third meridian and Norwegian territorial waters; and its eastern end would skirt the Norwegian coast from the neighbourhood of Udsire to the approaches to Selbjorns Fiord. Forces based upon the Orkneys could not keep this zone of water properly patrolled—it was too far away—and a deep minefield, into which submarines were not compelled to dive was obviously of doubtful value. It was for this reason that the Commander-in-Chief had always held that the barrage would only be a real danger if a base could be obtained on the Norwegian side of the North Sea. He

¹ Later, these groups of coastal ships were accompanied by a cruiser.

had, however, expressed this opinion as a criticism of the barrage project, not as a suggestion in high policy.

The British Government could not contemplate a violation of Norwegian neutrality; but they realised that this unpatrolled section of the minefield, with a gap at its eastern end, did actually prejudice the success of the whole undertaking. By August it was evident that something would have to be done: reports of German submarine movements raised a strong presumption that U-boat commanders were evading the barrage by using Norwegian territorial waters. Also, the lack of any kind of patrol on the eastern section would soon be more felt than ever; for Admiral Tupper's forces were under orders to withdraw to Buncrana. After long consideration, therefore, the Government decided to invite the Norwegian Government to mine the strip of territorial waters which lay to the eastward of the eastern section of the barrage. When the British Minister approached the Norwegian Government, he reminded them that they had forbidden all submarines to use their territorial waters by two successive Royal decrees; the British Government were therefore only asking the Norwegian authorities to make these decrees effective. The Norwegian authorities replied that they could not do what we asked, as they alone must decide what measures ought to be taken to make the Royal decrees effective. We did not feel inclined to press them hard. If they absolutely refused to do as we asked, we could, of course, mine their waters ourselves, but there were objections to this; and naval opinion was strongly against it. At a conference held on board the *Queen Elizabeth* at the end of August, the Commander-in-Chief said that it would be most repugnant to the officers and men in the Grand Fleet to steam in overwhelming strength into the waters of a small but high-spirited people and coerce them. If the Norwegians resisted, as they very probably would, blood would be shed; this, said the Commander-in-Chief, "would constitute a crime as bad as any the Germans had committed elsewhere." There was another, equally formidable, objection. Even though the Norwegians did not resist, they would be bitterly indignant, and would certainly sweep up our minefield as soon as our forces had returned. We could only prevent this by stationing a permanent watching force upon the minefield that we had laid. This was not feasible; for the problem to which we were seeking a solution had its sources in our own inability to keep even the eastern section of the barrage watched and patrolled.

In any case the moment had now arrived when the British

authorities could examine these questions with a sense of freedom that they had not enjoyed for a long time. The Germans were at last weakening on the Western Front; and whilst the Commander-in-Chief was advising that the Norwegians should be argued with but not coerced, the daily bulletins from France were transmitting a current of hope and enthusiasm across the Channel. The British advance in Flanders had begun, and Merville, Albert and Roye were again in Allied hands. The good news was affecting combatants and civilians alike and negotiations with proud but obstinate neutrals were no longer being conducted under the jarring influence of sheer military necessity.

CHAPTER XI

THE END OF HOSTILITIES IN THE MEDITERRANEAN

THE armistice with Bulgaria was compounded and signed at General Franchet d'Esperey's headquarters in the Macedonian mountains on September 30. General Milne was not present at the negotiations; but on that day he sent out a circular telegram to say that hostilities with Bulgaria would cease at midday. It was not, however, until October 2 that he heard from London that, by virtue of the armistice, the Bulgarians had undertaken to demobilise their army, to open their ports to Allied troops, and to make their railways available for their transportation. This meant that the armies of the Entente Powers were now free to move northwards to the Danube and eastwards to Constantinople. It was the military position of Turkey that was most adversely affected by the Bulgarian surrender. Austria-Hungary was, it is true, menaced by a northerly advance of the Allied forces under General Franchet d'Esperey; but the Austro-Hungarian railways were still connected to the German system, and the geographical contact of the two Powers was not in danger of being severed. But Turkey was practically isolated from her Allies at her moment of greatest difficulty; the Ottoman armies were still retiring in disorder before General Allenby, while the capital was now threatened.

The British Ministers realised that the Bulgarian surrender radically altered the position in Eastern Europe; and as soon as they received news of it, they decided that the Supreme War Council should assemble in Paris as soon as possible. Also, they instructed the Admiralty and the War Office to prepare a general armistice with Turkey without delay. The First Sea Lord at once remarked that if a naval armistice were granted to Turkey, the first condition should be that the Allied fleet should enter the Black Sea; he added that, in his opinion, it should be placed under the command of a British admiral, as this would be a proper recognition of Great Britain's share in the Dardanelles campaign and the final Turkish downfall. The British Government agreed, but there were difficulties, for the French Commander-in-Chief

still commanded the Allied forces in the Mediterranean, and Vice-Admiral Amet, the Senior Officer in the Ægean, had been sent there at the request of the British Government.

Before the matter could be settled, however, news came in that two Turkish envoys had arrived at Mitylene, and had requested that they should be taken to Athens and put into communication with the British Minister.¹ As soon as this was known, the War Office and Admiralty drew up terms of an armistice with Turkey, and sent copies to General Milne, General Allenby and Admiral Calthorpe. Mr. Lloyd George, who was then in Paris, laid these conditions before the Allied Premiers; they approved of them substantially, but claimed that the Allies as a whole (not only the British) should be given the right to occupy strategic points and control the railway and telegraph systems of the Ottoman Empire.

On the same day (October 7) we learned, however, that the Turkish envoys were merely representatives of Rahmey Bey, the Governor-General of the Smyrna vilayet, who was anxious to secure Allied support for a revolution that he hoped to lead against the existing Turkish Government. As the British Government had no intention whatever of negotiating with a vilayet commander at the very moment when our military successes seemed enough to bring the regular Turkish authorities to terms, Lord Robert Cecil instructed Lord Granville, the British minister at Athens, to reply that negotiations for a peace or an armistice would only be carried on with accredited representatives of the Turkish Government. Preparations for the campaign in Thrace were, indeed, well advanced. On the same day a conference of the Allied Governments decided that the British Salonica Army should be assembled under General Milne, and should march eastward to the Maritza River. It was to be reinforced by whatever troops could be spared from the Egyptian garrison.

The destroyer escorts for the new transport line from Egypt to southern Thrace could only be taken from the forces on the Otranto Barrage, so that the British destroyer forces in the Mediterranean had to be redistributed in order to give effect to this last decision: the *Blenheim* and three divisions of destroyers were at once ordered to move to Malta. At the same time Admiral Calthorpe was directed to go to Mudros. General Milne was particularly anxious that his chief naval colleague should be a British officer.

As Admiral Calthorpe's arrival in Mudros would alter the

¹ They were carried to the Piræus in the *Liverpool*.

existing relations of rank and precedence, the Admiralty asked Admiral de Bon—the French Chief of Staff—to agree that Admiral Calthorpe should command the Allied squadron in the Ægean and that Admiral Gauchet should give him the necessary instructions with regard to major operations. Admiral de Bon could not agree on his own responsibility, and the British proposal was discussed at Versailles on the day following. The French opposed it, and the whole question was referred to Mr. Lloyd George and Monsieur Clemenceau; nothing, however, had been settled when Admiral Calthorpe arrived at Mudros (October 11) and interviewed Admiral Amet.

Admiral Calthorpe was now the senior flag-officer at Mudros; but the French 2nd Battle Squadron was more powerful than the British forces stationed there, so that the position was far from simple. The Admiralty, it is true, were trying to redress the inequality of Allied forces; the *Téméraire* and *Superb* were on their way to the eastern Mediterranean, and the *Lord Nelson*, which was refitting at Malta, was under orders to go to Mudros as soon as possible. When these reinforcements arrived, Admiral Calthorpe would be able to assume the command to which his seniority entitled him, and to take charge of any major operations that might be necessary if the Russian Black Sea Fleet made a sortie. Without them he was in a difficult position; for General Milne's march into Thrace, which had already begun, might at any moment bring out the enemy.

In fact, however, although we could not know it, the Black Sea Fleet was quite incapable of moving; but the Turkish authorities were still free to act and decide as they themselves thought best. On the day following Admiral Calthorpe's first interview with Admiral Amet, Talaat Pasha, the Premier, resigned and was succeeded by Izzet. A week later (October 20) General Townshend arrived at Mitylene in company with a British officer and an aide-de-camp of the new Minister of Marine.¹ The new Turkish Cabinet had set him at liberty and ordered him to inform the British authorities that Izzet and his Ministers were ready to conclude a separate peace. As soon as the British Government received the news they ordered Admiral Calthorpe to let the Turkish Government know that he had powers to conclude an armistice. On being informed of this by Admiral Calthorpe, Tewfik Bey,

¹ After the surrender of Kut on April 29, 1916 (see Vol. IV., p. 91), General Townshend was taken prisoner by the Turks. The operations of the naval gunboats subsequent to this are fully described in the Official History of the Mesopotamia Campaign, Vols. III and IV, and have therefore not been included in this volume.

the Turkish aide-de-camp, said that he would get into telegraphic communication with Constantinople through Smyrna, and he was at once carried to Chios in a British destroyer.

Meanwhile, Admiral de Bon, who in his dealings with the British naval authorities had always shown a most conciliatory temper, agreed that if an Allied fleet were sent up the Dardanelles it should be under British command. He was anxious that Admiral Gauchet should go to Salonica to discuss certain questions of maritime transport with General Franchet d'Esperey; but he promised that he would not allow him to go to Mudros: if the British particularly objected to the presence of the French Commander-in-Chief in the eastern Mediterranean, he would even refuse Admiral Gauchet permission to go to Salonica. The armistice conditions as finally agreed upon, with the final instructions of the Admiralty, were now sent to Admiral Calthorpe.¹ He was told that the first four clauses, namely, those stipulating for the Allied occupation of the Dardanelles and Bosphorus, the facility to sweep up all minefields and obstructions, and the return of all prisoners, must be insisted upon. "The first four conditions," ran the instructions, "are of such paramount importance, and if completely carried out will so inevitably make us master of the situation, that we do not wish you to jeopardise obtaining them, and obtaining them quickly, by insisting unduly upon all or any of the rest, or indeed by raising any particular one of the remaining twenty if you think it might endanger your success in getting the vital four at once." In addition to this, Admiral Calthorpe was instructed to take sole charge of the negotiations, and not to share his responsibility with any other person: he was, however, given permission to inform Admiral Amet of what was going on, if he wished to do so. This procedure was justified in the preliminary paragraph in his instructions from the Admiralty, which ran as follows: "Some weeks ago, when it seemed likely that the Turks would approach us with proposals for peace and an armistice, we agreed with France and Italy, that while terms of peace would need long consideration, an armistice might be concluded with any one of the three Powers to which the Turkish Government might make advances."

Late in the afternoon of October 26 the *Liverpool*, which had been waiting at Kalloni on the western side of Mitylene, arrived in Mudros with the accredited Turkish envoys—Raouf Bey (the Minister of Marine), Reshad Hikmet Bey, from the Turkish Foreign Office, and Colonel Saadullah Bey.

¹ See Appendix D III. (b).

The passage had been rough and trying and the Turks were too tired to open discussions that day.

The first clause was practically the only subject discussed at the first day's meeting. The Turkish delegates suggested several alternatives, as, for instance, that the forts should be dismantled or controlled by a mixed commission. Admiral Calthorpe refused to consider any substantial modification of the main condition but, at the end of the day, he telegraphed to the Admiralty that the negotiations would be eased if he were empowered to promise that only French and British troops should occupy the forts. The Admiralty at once replied that the assurances asked for could be given, and their telegram reached Mudros before the second meeting was opened.

Admiral Calthorpe's difficulties were, however, still very great. The French authorities had never imagined that their recent concessions would be used to exclude their Admiral from attendance at the negotiations, and during the day Admiral Amet had sent Admiral Calthorpe a letter, in which he informed him that he had just received orders from the French Admiralty to participate in the negotiations and to agree to nothing until the French Ministry had approved of it. To this Admiral Calthorpe replied that the Turkish envoys were accredited to Great Britain, and not to the Allies as a whole; secondly, he was able to show how very much negotiations would be delayed if everything agreed to had to be referred back to the French Government. The Turkish envoys, on being shown Admiral Amet's letter, answered that they had no wish to treat with any Government except the British. They promised, however, to inform the authorities in Constantinople.

The second meeting assembled at three o'clock in the afternoon. Before the discussions began, Admiral Calthorpe announced that the British Government would undertake that only French and British troops would occupy the forts in the Dardanelles. This, and two important concessions which the Admiral made later, very much eased the negotiations.

The Turkish envoys agreed, without much discussion, to Clauses 2, 3, 4, 5, 6 and 8, but Raouf urged, with some insistence, that the wording of Clauses 7 and 9 should be modified in order to make them more acceptable to the populace in the capital, which was dangerously excited. Admiral Calthorpe, therefore, agreed that the 7th Clause should be altered to read, "The Allies to have the right to occupy any strategic points in the event of a situation arising which threatens the security of the Allies." As for the 9th Clause, he redrafted it so that

the Turks should grant "ship repair facilities at all Turkish ports and arsenals"; Constantinople was not mentioned *eo nomine*. These concessions were most satisfactory to the Turkish envoys; but they insisted that they could not agree even to these modified clauses without consulting their Government. As telegraphic communication with the capital was slow and hazardous, this meant delay: there was in consequence, no meeting on October 29.

A telegram from Constantinople came in during the night, and when the delegates reassembled at nine o'clock on October 30, Raouf announced that the Turkish Government would surrender the forts to French and British troops; he begged, however, that a very small party of Turkish soldiers should be left behind as a special act of grace. Admiral Calthorpe promised to recommend that this should be done; but he was seriously alarmed when Raouf and Hikmet announced that several of the clauses, as amended on October 28, would still have to be referred to Constantinople for approval. This meant very long delay, and delay was extremely undesirable. Admiral Calthorpe, therefore determined to set a time limit to the negotiations, and informed Raouf and Hikmet that he had no objection to their communicating with Constantinople; but that, if they did not sign the armistice by nine o'clock that evening, he would conclude that they had refused to consider it further.

The Turkish delegates agreed to most of the remaining conditions, but Raouf urged that Clauses 16 and 24 might well be modified. Admiral Calthorpe, who had rather reluctantly insisted that the negotiations should be finished that night, and was anxious that the armistice should be signed without rancour, modified these two contested clauses very considerably during the last hours of the negotiations. Clause 16, as altered, stipulated that all Turkish troops would be withdrawn from Cilicia except those required for maintaining order; the four Cilician townships were not mentioned at all in Clause 24. When these points had been settled, the meeting was declared closed. It was still early in the day, and the envoys were not obliged to sign until nine o'clock in the evening. They waited all day for fresh instructions from their Government; but none came. Just before nine o'clock, therefore, Raouf told Admiral Calthorpe that he and his colleagues were ready to sign. The British Commander-in-Chief, Rear-Admiral Culme-Seymour, Commodore R. M. Burmester, Commander G. C. Dickens and Fleet Paymaster C. E. Lynes were the British

officers present at the last meeting. The armistice, as amended, was read out clause by clause and signed at twenty minutes to ten. The signatures attached were Arthur Calthorpe, Hussein Raouf, Rechad Hikmet and Saadullah.

When the Turkish armistice was signed, Austria-Hungary was only nominally a belligerent Power. The battle of the Vittorio Veneto had been raging for a week and the Italian armies were everywhere victorious. The constituent populations of the Dual Empire were disintegrating as rapidly as their armies; for the Czecho-Slovaks had already declared themselves independent, the Yugoslavs had formed a National Council, and a disruptive movement, of which we were receiving daily indications, was shaking the Istrian and Dalmatian cities. The Austro-Hungarian Commander-in-Chief had already petitioned General Diaz for an armistice, and it was only because the armistice conditions for Austria-Hungary and Germany were being considered together at Versailles that negotiations had been delayed.

But the delay was now almost over; on the very day that Raouf Bey and his colleagues signed the armistice with Turkey, the Council of Allied Premiers approved the final draft of the armistice with Austria-Hungary. The Italians were given freedom to negotiate and enforce both the military and the naval conditions; and the signing of the armistice was, throughout, left to the Italians who at this moment found that if they were to conclude an armistice with the Austro-Hungarian Empire at all, they had indeed little time to waste as all constituted authority was fast disappearing.

On the last day of October, two Italian officers had attacked Pola harbour with a new and extraordinary weapon. It was a torpedo, propelled in the ordinary way, by compressed air; but directed and controlled by the two Italian officers, who were dressed in inflated rubber suits. The torpedo was, however, not so much a weapon as a means of transport; it carried bombs which the two officers were to attach at their leisure to any ship that they could reach.

The night of the attack (October 31) was dark and rainy; the two Italians penetrated the harbour, and as far as they could judge, practically no watch was being kept. They reached the dreadnought battleship *Viribus Unitis* towards midnight, and attached one of the bombs to her. It was quite impossible to do this in complete silence, and the noise gave the Austrians the alarm; the Italian officers were captured, and their craft, now unguided, struck a steamer near by, exploded, and sank her.

Meanwhile the Italians were taken below and cross-questioned. They assured their captors that they had been dropped from an aeroplane, which may or may not have been believed. What their captors had to tell them was even more surprising. The Austro-Hungarian navy no longer existed; it now belonged to the Yugoslav National Council, which had declared itself independent two days before; and the Emperor Karl had approved of the transfer. When they were informed of this the Italian officers very wisely decided to give their captors the true explanation of their presence in Pola harbour. They told them that a bomb which would explode at daybreak had been attached to the ship and that it was they who had placed it there. The *Viribus Unitis* was at once abandoned; and as day came up the bomb attached to her did actually explode and the ship sank.

During the morning of November 1, the Italian naval authorities at Venice intercepted a number of messages from Pola which depicted the situation clearly enough. The first was sent direct to Malta, addressed to all the Entente Powers, and ran thus: "The day before yesterday the entire fleet of the old Austro-Hungarian monarchy was placed in our hands, who are the emissaries of the Yugoslav National Government for the Slovene, Croat and Serbian States. Notwithstanding this, yesterday morning, two officers of the Royal Italian navy entered the port and . . . torpedoed the *frantopan* [*sic*]. We implore the Entente, our deliverer, to look upon us as a friend, and to bring these deplorable hostilities to an end." A second message, sent soon after, stated that the Yugoslav National Council wished to send a boat to parley with the Allied fleet. The Italian naval command at Venice replied that they would meet the Yugoslav deputies at a point about half-way between Pola and Venice at nine o'clock on the following day.

The Yugoslav National Council evidently hoped that the Entente Powers would recognise their possession of the Austro-Hungarian fleet if they gave a promise to use it in the Allied service.

But the Italian authorities were now in possession of a draft of armistice conditions in which the naval forces of the Austro-Hungarian Empire were regarded and treated as a hostile fleet. They were bound to regard the political upheaval which was taking place at their doors with great apprehension, and the document upon which the Council at Paris had empowered them to negotiate gave them the right to disregard the Yugoslav National Council and to treat the authorities at Pola as the representatives of an

enemy State. This they contrived to do very successfully. The armistice negotiations were conducted solely by the Italian authorities, at General Diaz's headquarters; and the conditions approved by the Council of Premiers in Paris were signed on November 3, with practically no alterations. The naval war against the Mediterranean Powers ceased on November 4 at three o'clock in the afternoon.

The naval campaign against Germany continued for another week. A large number of German submarines were known to be returning to the North Sea from the Mediterranean bases, which they could no longer use, and the British patrol forces made a last effort to make the passage as dangerous and difficult as possible. The German submarine commanders now had to traverse two separate zones of danger: the fixed barrage at the Otranto Straits, and the mobile barrage across the Straits of Gibraltar. This second obstacle had recently been completed and was under the control of Admiral Heathcoat Grant: it consisted of five lines of watching vessels, supported at their eastern end by three kite balloon ships and two submarines, which kept periscope watch. These forces were strengthened on November 6 and 7 by five trawlers and drifters, recently sent out from home, and eleven American submarine chasers. Nevertheless, none of the escaping submarines were sighted until November 7, when a decoy brig on a cruise between Gibraltar and Bizerta saw two, at a considerable distance. On the following day the destroyer *Lyra*, on the barrage line, attacked another without result; and just after midnight two motor launches and the sloop *Privet* destroyed *U 34* as she was passing the Straits. But the advantage rested, in the end, with the escaping submarines; for it was during these closing days of the campaign that they struck one of the most dramatic of all the blows delivered by the German submarine service.

At a quarter-past seven on the morning of November 9, the old battleship *Britannia* was approaching Gibraltar from the westward under the escort of two destroyers. It was broad daylight at the time, and the ship was within three or four miles of the westernmost line of the barrage. The officers on the bridge suddenly reported a torpedo, and during the next two minutes the ship was missed twice, each time by a very narrow margin. But the third torpedo struck her amidships and exploded a large quantity of cordite. For three hours the ship was kept afloat; but in the end she went down. The *Britannia* was the last British warship sunk by the enemy. She was destroyed by a German submarine within one of those

zones which had been specially defended, and which, of all places in the high seas, should have been more dangerous to German U-boats than to Allied warships. Her destruction within two days of the final armistice was a stern reminder that the German submarine commanders were still undefeated and defiant, though their campaign against the commercial highways of the sea had been ruined and brought to nothing.

CHAPTER XII

THE EVACUATION OF FLANDERS AND THE ARMISTICE

SPECULATION about a campaign that was planned but not fought may afford a shadowy consolation to the defeated; but for the student of history it must be classed with the wit that is thought of only when the speaker is leaving the platform, or the winning number that is selected after the lottery has been closed. Yet, the German submarine campaign for 1919 has already been discussed by more than one writer. The Germans maintain that during the coming year they would have doubled the output of U-boats, that as our counter-attack and defensive measures had both reached their greatest efficiency, the check to the submarine campaign would have been temporary only, and that within a few months we should have been suffering increasing losses. They assert, moreover, that the Northern barrage, upon which so much labour and material had been expended, would have been no real impediment to incoming and outgoing submarines, as their U-boat captains already found that it was not a really dangerous obstacle. The German contention takes no account of some very formidable considerations on the other side. In the autumn of 1918, the Allied naval authorities were confident that the counter-attack upon the German submarines would be very much strengthened and intensified during the coming year. The American yards had just begun to build a special class of vessels called submarine chasers, of which they proposed to deliver a very large number during the year. These ships would have so reinforced our hunting flotillas that the problem of hunting for submarines on the inshore routes would at least have been made very much easier. The rate of submarine destruction might not have been greatly increased; but every German submarine in the Channel and the Irish Sea would certainly have been compelled to spend an increasing number of hours, during each active cruise, in flight or inactivity. Moreover, our purely defensive measures were capable of further development. After long deliberation, the naval authorities had decided to control coastwise traffic by a system devised by Lieutenant-Commander H. Rundle. When

effect had been given to this new system, coastal traffic would have been sailing in controlled groups which would only have been allowed to move from a protected anchorage when the route was clear, and then only under local escort. As the control of sailings had been conspicuous among the methods by which losses had been steadily reduced during the year, there can be little doubt that its application to traffic moving along the coast would have reduced losses still further.

As to the Northern barrage opinions have differed. It certainly had at first great weaknesses; but those weaknesses were discovered early. The authorities knew, almost as soon as the minefields were laid, that the American mines were unreliable, and that, in consequence, large sections of the field would sooner or later have to be relaid or reinforced. The Americans, who regarded the laying of the barrage as an undertaking in which their material credit was involved would certainly have spared no trouble in remedying these defects; and when they had done so the northern minefields might have caused German submarine forces very serious losses; for even in their faulty state they were dangerous. In September alone, five submarines were destroyed in the mines, as well as three more by other means in the North Sea, and the naval authorities were considering what further mining should be undertaken, when the unbroken successes of the armies in Flanders gave a new direction to the course of operations at sea.

On September 18, the British armies stormed the outer defences of the Hindenburg Line; the German generals realised that their armies had been severely defeated, and that the whole German front was shaken. Eight days later the Bulgarian front was broken. The consequence of these successive disasters was that General Ludendorff advised the Emperor to ask for an armistice, and that a new Cabinet formed on the parliamentary model was summoned to power. The evacuation of Flanders was at once begun.

The British Admiralty, to whom the military position was as well known as it was to Admiral Scheer, were watching intently for some signs of movement from the Flanders bases, and took their precautions early. Just before 4.0 a.m. on the 30th Admiral Tyrwhitt ordered a force of two light cruisers and five destroyers to go to a rendezvous at the northern end of the Flanders Bight; from here they were to sweep towards the south Dogger Bank light-vessel along the line of light buoys known as the free channel. Rather more than two hours later Admiral Tyrwhitt himself sailed with

the remainder of the Harwich Force. A great gale was blowing at the time, and all that day the destroyers and light cruisers pounded through heavy seas. They returned to harbour at half-past eight, having seen nothing.

On the following day (October 1), the Admiralty's suspicions of a German retirement from Flanders were confirmed by numerous reports. A minefield was therefore laid off the Haaks in the early morning and the Harwich Force was again sent to sea. The first detachment¹ sailed at a quarter-past two in the afternoon and patrolled off the Schouwen Bank; the second detachment² sailed at 9.0 p.m. and made for the Texel. The Admiralty learned, afterwards, that considerable German forces withdrew from Zeebrugge during the night of the 1st: how they slipped through our dispositions was unknown at the time.³

The military victories of the Entente Powers were still continuing without interruption. On October 1 the French armies retook St. Quentin; two days later the Germans began to withdraw from all their fortified positions between Lens and Armentières. It was in this grave state of affairs that Prince Max of Baden was invited to accept the post of Imperial Chancellor.

On October 5 the new Chancellor stated, in the Reichstag, that he had asked the President of the United States to bring about "the immediate conclusion of an armistice on land, water and in the air." His statement, which had been carefully prepared, gave not the slightest hint of his own deep misgivings on the step which he was compelled to take.

The Allied Premiers took note of Prince Max's petition before it was officially communicated to them, and assembled at the Quai d'Orsay for a conference on October 6 to discuss the German Chancellor's speech, which had been reported in the morning papers of that day. The discussion was continued on October 7, and the British Prime Minister openly admitted that the German manœuvre made him very anxious. He feared the temper of the armies; if, by reason of these tentative negotiations for an armistice, the soldiers stopped fighting, he was certain that no subsequent appeal to them to take up arms again would be of the slightest avail. It was, in these circumstances, most important that the Allies

¹ *Montrose, Radiant, Thruster, Swallow, Tempest and Teazer.*

² *Canterbury, Dragon* and five destroyers.

³ Twenty-eight destroyers escaped between September 29 and the next few days, the majority making their way along the coast of Holland within territorial waters. Five were blown up as they could not sail in time or were under repair. The submarines had left earlier by detachments.

should settle the guiding principles of an armistice amongst themselves, and confront the President with united opposition if he attempted to modify them. The Premiers agreed to this, and ordered the military and naval representatives at Versailles to prepare armistice conditions for Germany and Austria-Hungary upon the basis of eight directing rules.

1. The total evacuation by the enemy of France, Belgium, Luxembourg and Italy.

2. The Germans to retire behind the Rhine into Germany.

3. Alsace-Lorraine to be evacuated by German troops without occupation by the Allies.

4. The same conditions to apply to the Trentino and Istria.

5. Serbia and Montenegro to be evacuated by the enemy.

6. Evacuation of the Caucasus.

7. Immediate steps to be taken for the evacuation of all territory belonging to Russia and Rumania before the war.

8. Immediate cessation of submarine warfare and continuation of Allied blockade.

These governing rules outlined the military conditions very clearly, but, except upon one point, they did not indicate what terms should be imposed by the naval armistice. Two drafts were prepared and presented on the following day: one by Marshal Foch and his staff, the other by the naval and military representatives at Versailles. The naval armistice conditions were outlined only in this second document. The Versailles Council recommended that the enemy should be ordered to withdraw their entire surface fleet to naval bases approved by the Allies, where they were to remain for so long as the armistice lasted. The same thing was to be done with regard to the enemy's naval air forces. Submarine warfare against merchant shipping was to cease at once, and sixty German submarines were to be brought into Allied ports. The blockade of Germany was to be continued. The Allied Premiers neither approved these proposals nor sent them back for revision.

President Wilson's reply to Prince Max of Baden was published on October 8. In it the President informed the German Chancellor that, before he could take any steps, he must know whether the German Government had so far accepted the terms laid down in his addresses to Congress, that nothing remained to be done but to discuss the practical details of their application. The President added that it would be impossible for him to open negotiations for an armistice so long as the German armies were on Allied soil.

The sincerity of the German Government's professions must, in large measure, be judged by their willingness to withdraw from the invaded territories. In conclusion the President asked whether the Imperial Chancellor was speaking "for the constituted authorities of the German Empire who have hitherto conducted the war."

This note was discussed by the Allied Ministers at the Quai d'Orsay during the afternoon of October 9. The British Prime Minister stated that to him it seemed that the Germans were manœuvring the Allies into a most awkward position. They were asking for an armistice because their armies were being defeated; they were attempting to escape the consequences of defeat in the field by giving a simulated assent to President Wilson's war aims, and so obliging the Allies to inform the American Government that they could not agree to them. For on one point the British Prime Minister was firm and emphatic: Great Britain could not agree, beforehand, that a vague statement of political equity like President Wilson's fourteen points should be the basis of all subsequent negotiations for a general peace.

The French and Italian Premiers were not so apprehensive as the British Prime Minister; but the difference between President Wilson's demand for a withdrawal from invaded territory and Marshal Foch's insistence upon a retirement to the Rhine was great, and all were agreed that the President should be given a hint of the views and wishes of the Allies as soon as possible. He was therefore informed that an evacuation of invaded territory did not, in itself, seem to be a sufficient guarantee for the conclusion of a satisfactory armistice or a satisfactory peace. The President was also invited to send a representative to Europe as soon as possible.

Whilst the Allied Premiers were discussing President Wilson's note, the new German Government had also assembled to examine it, and on October 12, after three days of arduous discussion, they answered it. The Austro-Hungarian Government joined in the reply. The Governments of the Central Empires stated that they were ready to comply with the demand for evacuation, and suggested that mixed commissions should be convened to make the necessary arrangements. With regard to President Wilson's question about the constitution of the new German Government, they answered that it had been formed by conferences with the Reichstag, and that the Chancellor spoke "in the name of the German Government and of the German people."

Meanwhile the British Prime Minister had returned to

London and had reported the discussions at the Quai d'Orsay to the Imperial War Cabinet. He repeated all his apprehensions, and spoke at length upon the vague and dubious character of the fourteen points. Almost any meaning could be given to the clauses relating to Alsace-Lorraine, to Austria, and to the freedom of the seas. The German Government had everything to gain by making the President's ambiguous oratory a basis for negotiations: by giving a similar unconditional agreement the Allies might sacrifice their most important and essential war aims. The view which prevailed at the Conference was that the difficulty could best be overcome by making the conditions of an armistice approximate, as closely as possible, to the final conditions of peace. The First Sea Lord, who was attending the meeting, warned the Government that this decision raised a very important question of naval policy. An ordinary naval armistice would be one which ensured a cessation of hostilities at sea; but a naval armistice approximating to a final peace would have to deal with the German fleet as an instrument of high policy; not merely as a combative force.

The German reply to President Wilson's note was published in London on Sunday, October 13, and the Prime Minister at once summoned the naval and military representatives to his house to consider it. The conference decided that two telegrams of urgent warning should be sent to the President, to tell him that, unless the armistice conditions made it impossible for the Germans to fight again, either on land or on sea, the interests of the Allies would be badly compromised. On the following day the War Cabinet assembled to discuss the German reply and decided that nothing need be done; the President had made no communication whatever to the Allied Governments; and although he had said that no armistice could be considered until all invaded territory had been evacuated, he had not even suggested that this would be the only condition imposed. He had stated merely that, if the Germans agreed to this, he would consult the Allied Governments.

The President's second rejoinder to the German Government was published in London on the following day. The warnings that President Wilson had received from Paris and London had taken effect in the opening paragraph of the letter, which was stern and uncompromising. The evacuation and the conditions of an armistice were matters upon which the military advisers to the Allied and Associated Governments must decide; but in any case, the only arrangement that could be accepted would be one which gave satis-

factory guarantees for the maintenance of the existing military supremacy of the Allied armies. It would, in any case, be difficult to compound an armistice on any conditions whatever so long as German submarines were sinking passenger ships and the very boats in which the passengers endeavoured to escape; or so long as the German armies were engaged in pillage and devastation which excited universal disgust and horror. The President concluded his note by reiteration of his dislike of arbitrary power; and by saying that the course of peace negotiations would be very much influenced by the guarantees, which the German nation could give, that they had really reformed their constitution.

This note relieved the British Government's anxieties; its effect in Germany was very different. The German War Cabinet assembled to consider it on October 16, but it was not until October 19 that the reply was ready. During these three intervening days the Ministers of State were in continuous conference with the naval and military leaders, who now counselled further resistance. The answer to President Wilson was only drafted after Prince Max had decided to rely upon his own judgment, and to disregard the desperate counsels to which the generals and admirals were inclined to commit themselves. In this note the German Government stated that they wished to continue the negotiations, and promised that passenger ships should no longer be attacked by U-boats. This was exactly the kind of compromise that Admiral Scheer had most strongly opposed during the three days' discussions. As soon as he heard that the Government's decision could not be reversed, and that the note to America would not be altered, he recalled all U-boats at sea (October 21) and ordered Admiral von Hipper to take the High Seas Fleet to sea and operate against the Thames. On the following day the note was despatched.

Comparatively little is known about the operation which Admiral von Hipper was thus ordered to execute. Its chances of success were, however, proportionate to the German staff's ability to conceal the initial movements of the operation; and it so happened that the Admiralty received information, fairly soon, which roused their suspicions and put them on their guard. During the 22nd and 23rd, reports came in from the North Sea of an unusual U-boat concentration opposite the Firth of Forth. At the same time submarine attacks against shipping ceased. During the afternoon of the 23rd, therefore, the Admiralty warned the Commander-in-Chief that the situation in the North Sea was abnormal; and that they were ordering destroyers from

Plymouth, Dover and Buncrana to reinforce the Grand Fleet flotillas.

President Wilson replied at once to the German note, and on October 24 the British Government examined it. The President stated that, in view of the assurances now given by the German Government, he could no longer decline to discuss armistice negotiations with the Entente Powers. At the same time he felt obliged to repeat what he had said before, that the only armistice conditions that he could agree to would be conditions that would make it impossible for the German Government to renew hostilities, and "would ensure to the Associated Governments the unrestricted power to safeguard and enforce the details of the peace to which the German Government has agreed. . . ." In conclusion the President practically invited the German people to dethrone the Emperor, whose power to control the policy of the Empire seemed to be quite unimpaired by the recent constitutional changes. If the Government of the United States were compelled to deal with the military and monarchical masters of Germany, the President would feel obliged to demand not peace negotiations but surrender.

The British Ministers did not consider that the President's concern about the German constitution was either just or wise, nor were they prepared to admit that conditions of peace should be made contingent upon German domestic affairs; but as the President had not associated the Entente Powers with his reply, they felt that they were not called upon to express their disapproval. The President had met our wishes on all questions that most immediately concerned us, and was prepared to allow the armistice conditions to be prepared by the military and naval advisers to the Entente Powers. We could not ask for more, and so far as the authorities could judge from the known facts of the general position, it seemed fairly safe to assume that the Germans would be compelled to accept any terms that we presented; the alliance of the Central Powers was crumbling fast, Bulgarian resistance was over, the Turks had already petitioned us for an armistice, and Austria-Hungary was known to be so prostrate that Marshal Foch was considering plans for invading Germany through Austria. In the west the German retreat continued without pause or respite: the Flanders coast was clear of the enemy, Bruges, Courtrai and Tournai were in our hands.

The President's latest note, in which the Emperor's abdication was practically demanded as an armistice condition, was received in Germany at a particularly difficult

moment of a difficult time. The Chancellor was stricken with influenza and was too ill to attend the conferences and meetings at which the note was discussed; the civilian Ministers were almost in open controversy with General Ludendorff, and the news from the front was still as bad as it could be.¹ But in spite of all their difficulties, the Cabinet drafted a note which was simple and dignified. "The President is aware of the great changes which have just been made, and are at present being completed in the German constitution. Peace negotiations are being conducted by a popular Government by which all executive decisions are made. The military authorities are subordinate to the Government. The German Government again requests an armistice which will be preparatory to that just peace which the President has outlined in his communications" (October 27).

By this time the Admiralty were convinced that the German High Seas Fleet was preparing for a sortie, for the situation in the North Sea was almost a reproduction of the situation which had preceded Jutland. Our directional wireless stations reported that at least six German submarines were now concentrated east of the Firth of Forth, and that there was another group on the coastal route to the south. At midnight on the 28th, the Admiralty sent a long appreciation to the Commander-in-Chief. They could no longer doubt that the Germans were attempting to draw out the Grand Fleet, and that they expected it to move south. The Admiralty did not, however, consider that the German fleet would move before the following day, and they had no notion of its objective. Thus far the appreciation was wonderfully correct; Admiral von Hipper did intend, if he could, to draw the Grand Fleet southward, and his movement was to begin late on the following day. On one very important point, however, the Admiralty were mistaken. They concluded that the enemy would be unlikely to risk a fleet action until the armistice negotiations were over. Actually, Admirals von Hipper and Scheer were striving with the greatest energy to provoke a fleet action whilst the negotiations were proceeding; they were planning a stroke similar in its objects to the Dutch attack upon the Medway, which so much affected the negotiations at Breda, at the end of the second Dutch war.

But the German fleet never started and the desperate experiment failed. The German seamen were thoroughly restless and unsettled, and although they obediently per-

¹ General Ludendorff resigned on October 27 and was replaced by General Groener.

formed their duties during the preparations for a sortie, many hundreds of them had divined what was intended and had determined to prevent it. Late in the evening of October 29, the orders to raise steam were issued to the fleet. To the amazement of the officers those orders were disobeyed. In many ships the stokers drew fires. As soon as Admiral von Hipper grasped the position he dispersed the fleet: the 1st Battle Squadron was ordered to the Elbe, the 3rd to the Baltic and the 4th to the Jade. The crews appear to have been willing to bring the ships into harbour; they were disobedient, but only in partial revolt. Also, the officers were still sufficiently supported to enforce measures for restoring discipline. Hundreds of men were arrested and sent ashore under escort as the ships arrived in harbour.

Several days went by before the Admiralty could be certain that the impending sortie would not take place, and in the meantime the Allied naval authorities were working, without intermission, at the conditions of a naval armistice.

On October 28 the Allied Naval Council assembled in Paris under the Presidency of M. Georges Leygues, the French Minister of Marine. They had before them a draft of naval armistice conditions prepared by the Admiralty, and the French observations upon them. The most important of the Admiralty's conditions were those which related to the German battle fleet and the submarines. The Admiralty demanded that the fleet flagship *Baden*, ten dreadnought battleships from the 3rd and 4th Squadrons, six battle cruisers, eight light cruisers, fifty destroyers, and every German submarine afloat should be surrendered in Allied ports or bases. The French agreed substantially with regard to the submarines, but considered that all enemy surface warships should go to naval bases selected by the Allies and remain there during the armistice, and that a certain number—which would be specified later—should be surrendered. The British delegates were not prepared to agree; but the Council was unanimous that all submarines should be surrendered, that the blockade should be maintained, and that the Allied fleets should be given access to the Baltic.

An amended draft of conditions was ready next day; but before the Naval Council could consider it, they had to settle a somewhat awkward question. Marshal Foch had already drawn up a draft of a naval armistice and had presented it to the Allied Premiers. It differed in details and essentials from the conditions decided upon by the naval authorities; were the Allied Premiers to receive these alternative drafts, and choose between them, or was the Allied Naval Council

to be the supreme advisory authority? Monsieur Leygues and Admiral de Bon heard of this intervention for the first time, and were much surprised; the French Minister of Marine undertook to make strong representations to the French Prime Minister and to see to it that the Allied Naval Council's terms were the only ones considered by the Council of Premiers.

The naval armistice agreed to by the Allied Naval Council was in thirteen clauses,¹ which embodied the principles laid down at the previous meeting. In order to soften the clauses with regard to the German battleships, the delegates agreed that the fleet flagship should not be included in the list of ships which were to be surrendered to the Allies. The Naval Council added to their conditions an explanatory letter, and addressed it to the Council of Premiers. The Naval Council had drawn up the terms believing that the enemy were so shaken that they would submit to conditions such as would only be accepted by a State which had been completely defeated. If the enemy possessed a greater power of resistance than the Naval Council had supposed, then the conditions would have to be reconsidered and redrafted.

The Conference of Premiers was now assisted by Colonel House, whom President Wilson had sent to Europe when he received the Entente Premiers' request that an American representative should be present at their deliberations. As the Allies were agreed that they could never accept unconditionally the fourteen points, it was of the last importance to discover how the American Government would receive the Allies' refusal to treat with Germany upon the President's terms. The task of informing the American representative fell to Mr. Lloyd George, who did not think that anything would be gained by diplomatic circumlocution. The British Premier stated the British objections to the fourteen points with rare bluntness. The western Allies had never been consulted about those conditions, which had been pronounced *ex cathedra*, and they could not be committed to them. The clause relating to maritime policy was one to which no British Government would ever agree: even if a British Premier countersigned the clause, could it be imagined that the British nation would ever consent to surrender the very weapon that had brought Germany to terms? Colonel House's first reply was alarming; he answered stiffly that the Austrian and German Governments had petitioned the United States for an armistice, and that if the conditions which the other Powers desired to impose were unacceptable to

¹ See Appendix D.

the President, then the American Government would have no choice but to grant a separate armistice and, if needs be, a separate peace. He added, almost at once, however, that there was no need to consider these remote possibilities, and that it would be enough for the moment if the Allied Premiers made a draft of their exceptions to President Wilson's peace terms and communicated them.

It was decided later that the reservations of the Allies to the fourteen points need not impede the preparation for an armistice. The conditions, when agreed to, could be transmitted to President Wilson under cover of a letter or message, in which the Entente Powers stated their exceptions. The immediate task before the conference was to settle an armistice with Austria, for an Austrian officer had already visited General Diaz under a flag of truce. The Supreme War Council agreed to the conditions to be imposed on October 31, and the discussion of the German terms was then begun.

The Allied Premiers did not specifically answer the covering note of the Allied Naval Council, in which the admirals had stated that they had drawn up the armistice terms on the assumption that Germany's power of resistance was gone; but they refused to agree to the draft conditions. Sir Eric Geddes presented them to the Allied Premiers at a meeting held in Colonel House's residence in the rue de l'Université, at eleven o'clock on November 1. Marshal Foch, whose draft of a naval armistice had recently been rejected, was present at the meeting, and he at once expressed the strongest objections to the Naval Council's terms. The German submarines were the only section of the German fleet that need be surrendered, as they alone had done us real damage; it would obviously be sufficient to send the German battle fleet to the Baltic and to occupy Heligoland and Cuxhaven. The Germans would, in all human probability, refuse to sign the naval terms; and it was obviously unjust that the army should have to fight again in order to obtain them. Sir Eric Geddes at once replied that Marshal Foch had not been bothered by the High Seas Fleet because the Grand Fleet had held it in the North Sea for four years, and that to send it through the Kiel Canal would be to close the Baltic to the Allied navies. In fact, if the Marshal's proposal were adopted, the British and German fleets would be in the same state of tension as two armies that face one another fully armed and ready for battle, in lines of trenches.

The Allied Premiers were not willing to support Marshal Foch's opinions against the advice of their naval advisers;

but they were unanimous that the conditions as they stood were too severe: the surrender of the battle fleet could not be insisted upon; its internment was the most that could be demanded. The Allied Naval Council discussed this criticism of their draft at a long meeting held at the Ministry of Marine in the afternoon of November 1. All the Allied admirals felt that it would be most dangerous to reduce the terms. They had been given to understand that the armistice conditions were to approximate to the conditions of peace as closely as possible. As it was surely axiomatic that the German fleet would be practically abolished by the peace treaty, why should the armistice conditions be modified? An interned fleet could be used for bargaining at a peace conference; and the Germans would certainly try to recover it by political concessions. Admiral Benson, the American representative, thought differently. He had never understood that the armistice was to forestall the conditions of peace; its sole purpose in his view was to make it impossible for the Germans to break the truce during the peace negotiations. Nor was he prepared to agree that the German battle fleet would be returned to Germany if it were interned; for it should clearly be laid down that the Peace Conference should dispose of all German vessels specified in the armistice terms, whether they had been interned or surrendered. Admiral Benson refused to yield, and, in the end, the Naval Council returned the armistice conditions to the Council of Allied Premiers unaltered, with two letters, one from the Allied naval delegates, urging that the Premiers should not object further to the surrender of the German battle fleet; another from Admiral Benson, stating that its internment would be sufficient.

The Allied Premiers had to postpone discussion of the details of the armistice, for they were now presented with a document of urgent and pressing importance. It was a telegram from President Wilson, which Colonel House laid before the Allied representatives on November 3. The President had received and considered the Allied message with regard to the second clause in the fourteen points and had sent back a reply. He was willing to recognise British necessities and their "strong position with regard to the seas, both at home and throughout the Empire"; also he was prepared to admit that the law governing blockade would have to be altered. But he insisted that points 1, 2, 3 and 14 were essentially American, and that he would not recede from them. Point No. 2 was worded thus: "Absolute freedom of navigation upon the seas outside territorial waters,

alike in peace and in war, except as the seas may be closed, in whole or in part, by international action for the enforcement of international covenants."

Colonel House therefore asked the Allied Premiers whether they agreed to the principle of the freedom of the seas, and the British Premier answered with great promptitude that he did not. It would be useless for him to do so; if he agreed, he would be replaced within a week. The Allied Premiers then added a number of observations upon the President's peace terms. The Belgian Minister, M. Hymans, and Baron Sonnino both took exception to certain clauses. Colonel House realised that it would be most unfortunate if the President received a number of formal objections at such a moment, and the matter was settled by an exchange of notes between himself and the British Prime Minister, who agreed on behalf of Great Britain to discuss the freedom of the seas in the light of the new conditions that had arisen in the course of the present war.

The Allied Premiers were now free to examine the armistice conditions drawn up by the Naval Council; but it was not until the 4th that they had time to consider them in detail. They decided to reject the advice given them by the Naval Council. Mr. Lloyd George urged that it was so important there should be no breakdown in the armistice negotiations that he did not think it advisable to demand the surrender of the German fleet: internment would be sufficient. Marshal Foch made a last attempt to get the Naval Council's conditions completely overruled and to have his own substituted; but the British Premier said that the advice given by the admirals could not be disregarded. The other Premiers supported him. The Naval Council were therefore ordered to draft conditions which demanded the internment, but not the surrender, of the principal units of the German surface fleet.¹

This decision relieved our enemies of a humiliation that would have caused some of them great distress; whether they could have refused to accept it is another matter. They could only have resisted with their fleet; for by General Ludendorff's own admission the German armies could do nothing but retreat so long as our attacks continued: and by now the fleet was as little able to strike a last blow for the Fatherland as the army. The outbreak on October 29 had not been quelled, indeed it had spread and was still spreading. There were now serious disorders at Kiel and in the Elbe, and the crews were casting away the last vestiges of discipline.

¹ See Appendix D.

At Kiel, indeed, the mutiny was fast becoming a revolutionary movement.

The Allied Naval Council lost no time in redrafting their armistice conditions, which were presented to the Supreme War Council in the afternoon (November 4). In this final draft the internment of the German surface fleet in neutral ports had been substituted for its surrender. At the last moment the Supreme War Council made an alteration in the draft conditions, which, though it was expressed very briefly, none the less had very important consequences later on. When the naval representatives handed in the armistice conditions, they made it quite clear that they did not all agree with the ruling given to them by the Allied Premiers. Although not prepared to ask his colleagues to reverse their decision, Monsieur Clemenceau saw that it would be extremely difficult to intern the German battle fleet in a neutral harbour: by what rule or custom of international comity were the Allies justified in keeping an enemy's fleet in a neutral port under their own supervision? What would the Allies do if every neutral Government in Europe refused to receive the German fleet? Admiral de Bon at once answered that he did not know how internment in a neutral port could possibly be enforced, and urged the Council to demand the surrender of the German fleet. This the Allied Premiers felt unable to do. They finally decided that the German fleet should be interned in neutral or, failing them, Allied ports.¹

The armistice conditions were now completed in every particular, and it only remained to decide how they should be presented.² As the German Government had throughout dealt with the Allies through President Wilson, he was undoubtedly the proper person to announce to Berlin that the Allies would receive their representatives. But, in order that the Government at Washington should be under no doubt whatever that the Allies stood firmly upon their exceptions to certain passages in the President's fourteen points, they forwarded the armistice conditions to Washington under cover of an explanatory message. In it the Allies declared themselves willing to make peace with the Government of Germany on the terms of peace laid down in the President's Address to Congress on January 8, 1918; none the less, the second clause of those conditions, which related to a doctrine usually known as the freedom of the seas, could be interpreted

¹ See Appendix D.

² The armistice conditions included the unconditional surrender of all German forces operating in East Africa. For the last three years of the war the principal operations in this theatre had been entirely military.

in several different ways—and some interpretations were unacceptable to the Allies. They therefore held themselves free to enter the peace conference without previously engaging themselves in any sense at all upon this important question. Also the President had declared that the invaded territory must be restored and freed; this clause the Allies understood to mean that Germany would pay compensation for all the damage caused to the civilian population of her enemies by her acts of aggression on land, on the sea and from the air. Finally, the Supreme War Council decided that Marshal Foch and a British admiral should present the armistice terms, and should have powers to treat on minor technical points.

By now the German authorities realised that all thought of resistance was hopeless: they must accept whatever terms were presented. Indeed when President Wilson's final note was received in Berlin, Herr Erzberger had already been appointed to act as the head of the armistice delegation. He was to be assisted by General von Winterfeldt, who had once been the Military Attaché in Paris; by a naval officer, Captain Vanselow, and by Count Oberndorff. Erzberger was given full powers and was bound by no instructions whatever.

Early in the morning of the 7th the Eiffel Tower sent out a wireless message, prepared at French Headquarters: if German plenipotentiaries wished to meet Marshal Foch, they should approach the French outposts by the road which runs between Chimay, Fourmies le Chapelle and Guise.

Erzberger and his colleagues reached the French lines between half-past nine and ten that night. The rest of the journey was made partly in French cars and partly in a special saloon carriage. At seven o'clock on the morning of November 8 the special train which carried the German delegation reached the siding in the forest of Compiègne, where Marshal Foch had decided to meet the representatives of his enemies. The Germans saw that another saloon similar to their own was drawn up a few yards away.¹

After making a few brief preparations the German envoys walked across to Marshal Foch's car and asked to be admitted. The formalities of introduction and examining credentials were of the briefest. As soon as they were over, Marshal Foch informed the Germans that he had no proposals to make, and requested General Weygand to read out the conditions. They were then read out clause by clause and translated

¹ The British delegation consisted of Admirals Wemyss and George Hope and Captain John Marriott, R.N. Marshal Foch, General Weygand, and two staff officers composed the French delegation.

viva voce. Erzberger was obviously unable to agree to such crushing conditions without first communicating them to his Government, and an officer was at once sent back to Germany with a copy.

Whilst the German delegates were waiting for final instructions from their Government, the revolutionary movement in their country rapidly gained momentum. On November 9 the leaders of the Socialist Party expelled Prince Max by a manœuvre which differed little from a *coup d'état*. On this same day, fateful in the history of Germany, the Emperor abdicated and fled, and terrible disorders broke out in Berlin. Erzberger heard of this towards midnight from a French officer, but it was not until late in the afternoon of the 10th that he received instructions to sign from Ebert, the new Chancellor.

The final sitting opened at a quarter-past two in the morning of the 11th; and lasted for three hours. Erzberger protested passionately against the clauses relating to the continuation of the blockade, but was somewhat comforted to hear that the Entente Powers would probably allow the German Government to obtain supplies for the civil population. It was still quite dark when the delegates signed. The news could not be transmitted quickly enough to be printed in the morning papers of the Allied capitals; but it spread rapidly; before the guns had ceased on the Western Front, the populations of London and Paris were celebrating the end of the war.

The Enforcement of the Naval Armistice

As soon as the armistice was signed, Marshal Foch and Admiral Wemyss drove away for Paris. They reached the French capital at ten o'clock. An emergency meeting of the Allied Naval Council was assembled with some difficulty in the Ministry of Marine, and the Allied admirals listened to Admiral Wemyss's report. The British admiral announced that the armistice had been signed with very slight alteration; and recommended that the German capital ships, cruisers and destroyers should be interned in Scapa Flow. This, he said, was the best place of custody for German ships until

the Peace Conference disposed of them. To intern them in a neutral harbour would involve great difficulties. The Allies would have to insist on the neutral Government keeping the German squadron in safe custody and would, in fact, be supervising a supervision. Such demands would probably be ill received; certainly they would be ill executed. The Allied Naval Council endorsed Admiral Wemyss's proposals and agreed that Admiral Beatty should enforce the execution of those clauses in the armistice which related to the surrender and internment of the German ships, and that an inter-Allied Commission was to supervise the fulfilment of the remaining conditions.

The immediate task before the Allied Admirals was to discover whether there was any directing authority in the German fleet, and if so, what was its character and constitution. On this point the information in the Admiralty's possession was completely baffling. There was a Government in Berlin, and Ebert was at the head of it; but there were other bodies, formed we knew not how, which were performing the duties of Government in various parts of the country.

The Admiralty, therefore, took what was, possibly, the wisest course, that of getting into communication with the officers who had once been members of the German High Command, and of holding themselves ready to act upon the resulting information. If the officers who received our messages proved to be powerless, they might nevertheless be able to put us in touch with the *de facto* commanders of the German fleet; while if any authority remained to them at all, we should in all probability strengthen it by treating them as the accredited representatives of the German navy. The Commander-in-Chief was therefore instructed to request Admiral von Hipper to send a flag officer to Rosyth to make arrangements for executing the naval armistice. The result was highly satisfactory. At noon on November 13, Admiral Beatty received a message that Admiral Meurer would act as the plenipotentiary of the German navy and would come to Rosyth in the light cruiser *Königsberg*.

Admiral Meurer and his staff were received on board the *Queen Elizabeth* between seven and eight o'clock in the evening of November 15, and the first conference began at twenty minutes to eight.¹ After Meurer's credentials had been exa-

¹ There were present :

Admiral Sir David Beatty,
Admiral Sir Charles Madden,
Vice-Admiral Sir Osmond de B. Brock,

mined he was handed a paper printed in two parallel columns; on the left were brief summaries of the armistice conditions, on the right the information which Admiral Meurer was requested to give, or the orders with which he was to comply. The armistice provided for the surrender of all German submarines and the internment of a specified number of surface ships. Preliminary arrangements had been made under each head, but it was still necessary that the Commander-in-Chief should know how many submarines were ready for immediate delivery, how the German fleet was at present distributed, and how long it would take to assemble the vessels specified in Article 23. Admiral Meurer replied that he could not immediately answer all the questions put to him, but that he would communicate at once with the home authorities. Before the conference was adjourned for the day, the German Admiral made a brief reference to the disorder in his own country. The old institutions, he said, had everywhere been overthrown and replaced by democratic committees, or by Soldiers' and Workmen's Councils; he begged earnestly that the confusion in Germany might be kept in mind throughout the next critical weeks during which the terms of the naval armistice were to be carried out. Admiral Beatty answered that if he were satisfied that a ship which was mentioned by name in Article 23 could not be made ready for delivery owing to the disorganisation of the German dockyards, he would agree that another should be substituted; and that, as the *Wiesbaden* had not yet been commissioned, another light cruiser could take her place in the squadron to be interned. The German Admiral returned to his own ship at half-past eight in the evening.

Three meetings were held on the following day, and by the evening the Commander-in-Chief handed the German admiral a written summary of the agreed arrangements. Throughout the day the discussions were confined strictly to technical questions; the ships and submarines that were to be assembled, the points at which they were to be met by

assisted by Paymaster-Commander F. T. Spickernell and Commander Roger Bellairs.

The German Mission consisted of :

Rear-Admiral Hugo Meurer,
Commander Hintzmann,
Lieut.-Commander Saalwachter,
Lieut.-Commander von Frauenreich,
Sub-Lieutenant Brauneck.

Vice-Admiral Sir Montague Browning and Rear-Admiral Sir Reginald Tyrwhitt were also present at certain stages.

Commander W. T. Bagot acted as interpreter.

the British forces, the supplies of coal and water they were to carry, the crews that were to be allowed to them for the voyage, how transport was to be supplied for carrying away the surplus seamen, when the ships were interned and left in charge of care and maintenance parties. Admiral Meurer's answers to all questions put to him were simple and straightforward; he left the *Queen Elizabeth* at ten o'clock on the night of November 16. The *Königsberg* sailed soon after.

There was now very little more to be done beyond preparing the orders for the forces detailed to escort the German surface ships to the Firth of Forth and the German submarines to Harwich. In order to make the proceedings as impressive as possible, it was arranged that all the available ships and squadrons of the Grand Fleet should perform the first duty, and the entire Harwich Force the second. Admiral Tyrwhitt issued his orders on November 17 and Admiral Beatty on November 20. During the days immediately following the meetings at Rosyth, the German Government appointed Admiral von Reuter to the command of the German surface ships.

Early in the afternoon of November 18, Admiral Tyrwhitt was informed that the first group of German submarines was leaving Wilhelmshaven. Their progress across the North Sea and into the Flanders Bight was reported frequently, and at 3.0 p.m. on the following day the Harwich Force put to sea to meet the incoming U-boats. There were twenty of them in all, and they reached the rendezvous at the scheduled time; here the Harwich Force formed round them and led them to an anchorage near the South Cutter Buoy. As soon as the U-boats dropped their anchors, a British officer went on board each of them with a British crew. The German commanding officer handed a signed statement to the British captain, to the effect that the submarine was fit to be navigated and disarmed. The British ensign was then hoisted, and when all the submarines were ready, they were taken up harbour and made fast to a submarine trot off Parkestone; the German crews were at once transferred to a transport. In order that there should be no demonstration savouring in the least degree of triumphing over a beaten enemy, Admiral Tyrwhitt ordered the ships of the Harwich Force to maintain a strict silence when passing or being passed by German submarines, and added that there was to be no manifestation whatever. These instructions were scrupulously carried out; by ten o'clock the submarines were made fast to the mooring trot and the German transport was on her way back to Germany.

Meanwhile Admiral von Reuter had sailed with his squadron; by midnight on the 20th his flagship was rather more than 100 miles from May Island. One of the German destroyers had struck a mine and sunk during the passage through the Heligoland Bight; and this had been duly reported to Admiral Beatty. The Grand Fleet sailed at a quarter-past two on the morning of the 21st, and after passing into the open water outside the net obstructions it was formed into two gigantic columns, composed of no less than thirteen squadrons, and giving an almost illimitable vista of ordered power. The German ships were sighted soon after eight. By half-past nine the *Cardiff* had led them to their position between the columns of the Grand Fleet squadrons, and Admiral Beatty turned his fleet 16 points to the westward to escort the enemy into harbour. It was a fine day but rather misty, and the fleet approached the anchorage at slow speed. The arrangements worked without a hitch, and by noon the Germans were at their anchorage. The German battleships, battle cruisers and light cruisers were moored in six lines, in the middle of the Firth, half-way between Kirkcaldy and Aberlady Bays; the destroyers were moored closer in to the Haddington shore, towards Cockenzie. When the last German ship was anchored, Admiral Beatty made a signal that the German flag was to be hauled down at sunset and that it must not again be rehoisted.¹ When the *Queen Elizabeth* steamed past the Grand Fleet to her anchorage, Admiral Beatty was loudly cheered by the crews.

During the course of the afternoon Commodore M. H. Hodges went on board the *Friedrich der Grosse*, with Commander G. C. Royle, Lieutenant N. B. Deare, and Lieutenant-Commander F. C. Tiarks, R.N.V.R., who acted as interpreter. The Commodore informed Admiral von Reuter that the Commander-in-Chief did not wish to receive him, and told him that the ships were to be interned at Scapa, whither they would go in batches as soon as they had been inspected. Admiral von Reuter protested against the order about hauling down the German flag, but the Commodore answered that he had no authority to modify it. The inspection of the German ships was carried out on the following day; they were found

¹ The ships actually surrendered were the battleships *Friedrich der Grosse* (flag of Rear-Admiral von Reuter), *König Albert*, *Kaiser*, *Kronprinz Wilhelm*, *Kaiserin*, *Bayern*, *Markgraf*, *Prinzregent Luitpold*, *Grosser Kurfürst*, the battle cruisers *Seydlitz* (Broad Pendant), *Derfflinger*, *Von der Tann*, *Hindenburg*, *Moltke*, the light cruisers *Karlsruhe* (Broad Pendant), *Frankfurt*, *Emden*, *Nürnberg*, *Brummer*, *Cöln*, *Bremse* and 49 destroyers.

to have been completely disarmed, and arrangements were at once made for sending them on to Scapa.

These proceedings were reported in the newspapers in language which was as impressive as the correspondents could make it. The Commander-in-Chief and the Rear-Admiral Commanding the Harwich Force regarded the whole matter as an act of administration which was hardly worth describing. But the surrender has few parallels in history, and will live long in the memory of the nations.

APPENDIX A

CONVOY SYSTEM

STATISTICAL TABLES ILLUSTRATING THE ALLOCATION AND COLLECTION OF ESCORT FORCES

- I. British Cruiser Forces : distribution, April 1917.
- II (a). British Cruiser Forces : on ocean escort duty, June and December 1917.
 - (b). British Cruiser Forces : June and November 1918.
- III (a). Destroyers : distribution and employment of, in Home Waters during inauguration of Convoy System, April 1917.
 - (b). Destroyers : June 1917.
 - (c). Destroyers : July 1917.
- IV. Destroyers : Atlantic Convoys, under destroyer escort, June and July 1917.
- V (a). Destroyers, Sloops and Patrol Boats : number employed on escort duty in the danger zone, July 1917.
 - (b). Destroyers, Sloops and Patrol Boats : November 1917.
 - (c). Destroyers, Sloops and Patrol Boats : April 1918.
 - (d). Destroyers, Sloops and Patrol Boats : September 1918.

April 1917

NOTE.—The numbers include old cruisers or light cruisers, retaining some part of their armament, employed as overflow ships or training ships, but not include disarmed depot ships.

NOTE.—The numbers include old cruisers or light cruisers, retaining some part of their armament, employed as overflow ships or training ships, but not include disarmed depot ships.

II

BRITISH CRUISER FORCES EMPLOYED ON OCEAN ESCORT DUTY

(a) 1917

| JUNE-JULY | | | | DECEMBER. | | |
|------------------------------|--|---------|--|------------------------------|--|---------|
| Ships. | Squadron. | Number. | Losses, etc., between July and Dec. | Ships. | Squadron. | Number. |
| Cruisers | North America and West Indies Squad- ron | 4 | 1 | Cruisers | North America and West Indies Squad- ron | 6 |
| " | Special Service | 1 | 1 | " | 2nd Cruiser Squadron | 3 |
| Light Cruisers | North America and West Indies Squad- ron | 2 | — | " | 9th Cruiser Squadron | 2 |
| Armed Merchant Cruisers | 10th Cruiser Squadron | 3 | — | Light Cruisers | North America and West Indies Squad- ron | 2 |
| Commissioned Escort Ships | | 4 | 1 | Armed Merchant Cruisers | 10th Cruiser Squadron | 18 |
| | | | | " " | 9th Cruiser Squadron | 3 |
| | | | | " " | East Coast of South America | 1 |
| | | | | Commissioned Escort Ships | | 7 |
| | Total | 14 | 3 | | Total | 42 |

(b) 1918.

| JUNE. | | | NOVEMBER. | | |
|------------------------------|--|---------|--|------------------------------|--|
| Ships. | Squadron. | Number. | Losses, etc., between June and Nov. | Ships. | Squadron. |
| Cruisers | North America and West Indies Squad- ron | 7 | — | Battleship Cruisers | 9th Cruiser Squadron North America and West Indies Squad- ron |
| " | China Station | 1 | 1 | " | 2nd Cruiser Squadron |
| " | 2nd Cruiser Squadron | 2 | 1 | " | 9th Cruiser Squadron |
| " | 9th Cruiser Squadron | 1 | — | " | North America and West Indies Squad- ron |
| Light Cruisers | North America and West Indies Squad- ron | 2 | — | Light Cruisers | West Indies Squad- ron |
| " | Gibraltar Command | 1 | — | " | Gibraltar Command |
| " | East Coast of South America | 3 | — | " | East Coast of South America |
| " | 9th Cruiser Squadron | 3 | 1 | " | 9th Cruiser Squadron |
| " | Cape of Good Hope Command | 1 | 1 | " | Eastern Pacific |
| " | Eastern Pacific Command | 1 | — | " | Detached Service |
| " | Detached Service | 8 | 2 | Commissioned Escort Ships | Detached Service |
| Commissioned Escort Ships | | 20 | — | | |
| | | 8 | — | | |
| | Total | 50 | 6 | | Total |
| | | | | | 50 |

III

DISTRIBUTION AND EMPLOYMENT OF DESTROYERS DURING INAUGURATION OF CONVOY SYSTEM

(a) HOME WATERS. APRIL 1917

Average number of vessels allotted daily to various services during the month.

Destroyers in Home Waters (not including Flotilla Leaders, Torpedo Boats, Destroyers attached to Submarine Flotillas, or P-boats).

| | |
|-------------------------------------|-----|
| "River" Class and earlier | 84 |
| Later than "River" Class | 195 |
| Total | 279 |

| <i>Grand Fleet.</i> | | <i>Harwich Force.</i> | | <i>Dover Force.</i> | |
|--|----|--------------------------------------|----|---|----|
| <i>Scapa and Rosyth.</i> | | <i>Harwich.</i> | | <i>Dover and Dunkirk.</i> | |
| 11th, 12th, 14th, 15th Flotillas (72): | | 10th Flotilla (28): | | 6th Flotilla (37): | |
| 13th Flotilla (27): | | | | | |
| (Rosalie) | | | | | |
| Based on Invergordon | 4 | Escort of Dutch trade; reinforcement | | Patrol of Straits; escort of transports | |
| Detached, on anti-S/M work: | | for Dover; attack on German trade | | and supply ships; protection of | |
| Queenstown | 8 | between Rotterdam and German | | trade in the Downs; defence of | 24 |
| Aberdeen | 4 | ports; defence against enemy de- | | barrage | 13 |
| Devonport | 4 | stroyer and Zeppelin or S/M raids | 25 | Under repair | 37 |
| Lerwick (for escort of Scandi- | | on East Coast; escort of minelayers | 3 | Total | |
| navian convoy) | 8 | Under repair | — | | |
| Under repair | 24 | Total | 28 | | |
| In harbour | 21 | | | | |
| Total | 99 | | | | |

| <i>Scapa, Rosyth and Cromarty.</i> | | <i>Humber and Tyne.</i> | | <i>The Nore.</i> | |
|------------------------------------|----|------------------------------------|----|-----------------------------|---|
| 8th Flotilla (11): | | 7th Flotilla (24): | | Local Defence Flotilla (8): | |
| Detached for Scandinavian Convoy | 7 | Local Defence | 5 | Escort, etc. | 8 |
| North Channel Patrol | 4 | Detached for Scandinavian Convoy . | 13 | Total | 8 |
| Under repair | — | Under repair | 6 | | |
| Total | 11 | Total | 24 | | |

| <i>Portsmouth.</i> | | <i>Devonport.</i> | | <i>Queenstown.</i> | |
|--|--|--|--|----------------------------------|--|
| 1st Flotilla (10). | | 2nd Flotilla (16). | | Detached from Grand Fleet (8) : | |
| Escort Flotilla (12). | | 4th Flotilla (19). | | Escort duty; trade route patrol; | |
| Local Defence Flotilla (10) : | | Local Defence Flotilla (5). | | S/M hunting | |
| Patrol of trade routes, escort of trans- | | Detached from Grand Fleet (4) : | | Total | |
| ports, supply ships, etc. | | Patrol of trade routes, escort of trans- | | Escort duty; trade route patrol; | |
| Patrol off base | | ports, supply ships, etc. | | S/M hunting | |
| Detached <i>Vernon</i> | | Local patrol | | Total | |
| " <i>Portland</i> | | Escort, Lisbon-Buncrana. | | Escort duty; trade route patrol; | |
| Channel escort (French coal trade, etc.) | | Under repair | | S/M hunting | |
| or in harbour | | Total | | Total | |
| Under repair | | Total | | Escort duty; trade route patrol; | |
| Total | | Total | | S/M hunting | |
| | | | | Total | |

(b) HOME WATERS. JUNE 1917.

Average number of vessels allotted daily to various services during the month.

Destroyers in Home Waters (not including Flotilla Leaders, Torpedo Boats, Destroyers attached to Submarine Flotillas, or P-boats).

| <i>Grand Fleet.</i> | | <i>Harwich Force.</i> | | <i>Dover Force.</i> | |
|---|--|-----------------------------------|--|-------------------------------------|--|
| <i>Scapa and Rosyth.</i> | | <i>Harwich.</i> | | <i>Dover and Dunkirk.</i> | |
| 11th, 12th, 14th, 15th Flotillas (72) : | | 10th Flotilla (24) : | | 6th Flotilla (32). | |
| (Scapa) | | Escort of Dutch trade; support of | | Part of 9th Flotilla (8) : | |
| 13th Flotilla (28) : | | Dover operations; escort of 3rd | | Patrol of Straits; escort of trans- | |
| (Rosyth) | | Battle Squadron or 5th Light | | ports and supply ships; protection | |
| Based on Invergordon | | Cruiser Squadron or Minelayers; | | of trade in the Downs; defence of | |
| Screening and patrol; S/M hunting | | S/M or Zeppelin hunting | | barrage and minelayers; S/M | |
| Detached : | | Under repair | | hunting | |
| Scandinavian Convoy (Lerwick and | | In harbour | | Under repair | |
| Swarbacks Minn) | | Total | | In harbour | |
| Atlantic Convoy and escort of trans- | | | | Total | |
| ports, etc. (Buncrana and Queens- | | | | | |
| town) | | | | | |
| Escort of oilers (Stornoway and | | | | | |
| Aberdeen) | | | | | |
| Under repair | | | | | |
| G.F. Operation (B.B.) or in harbour | | | | | |
| Total | | | | | |

| <i>Scapa and Cromarty.</i> | | | <i>Humber-Tyne-Lerwick.</i> | | | <i>The Nore.</i> | | |
|---------------------------------|----|--|----------------------------------|----|----|----------------------------------|--|---|
| Local Defence Flotilla (11): | | | East Coast Convoy Flotilla (23): | | | Local Defence Flotilla (7): | | |
| Local defence | 8 | | 7th and 8th Flotillas (8): | | | Escort, etc. | | 5 |
| Under repair | 3 | | On Scandinavian Convoy duty | | 18 | Under repair | | 2 |
| Total | 11 | | Under repair | 7 | | Total | | 7 |
| | | | In harbour | 6 | | | | |
| | | | Total | 31 | | | | |
| <i>Portsmouth.</i> | | | <i>Devonport.</i> | | | <i>Irish Command.</i> | | |
| 1st Flotilla (13). | | | 2nd Flotilla (18). | | | <i>North, Buncrana.</i> | | |
| Escort Flotilla (Channel) (9). | | | 4th Flotilla (20). | | | Detached from 14th Flotilla (4): | | |
| Local Defence Flotilla (9): | | | Local Defence Flotilla (5): | | | Detached from 15th Flotilla (3): | | |
| Patrol of trade routes, | | | Atlantic Convoy | 8 | | Detached to France for | | |
| S/M hunting, escort of | | | Patrol of trade routes, | | | troop convoy (Ameri- | | |
| transports and supply | | | S/M hunting, escort of | | | can), escort of trans- | | |
| ships | 17 | | transports and supply | | | ports, etc. | | |
| Detached to the <i>Vernon</i> . | 3 | | ships | 15 | | Detached, Liverpool . | | |
| Local defence | 6 | | Detached, Lisbon | 2 | | Under repair | | |
| Under repair | 3 | | " " Liverpool | 4 | | In harbour | | |
| In harbour | 2 | | Local defence | 6 | | Total | | |
| Total | 31 | | Under repair | 6 | | | | |
| | | | In harbour | 6 | | | | |
| | | | Total | 43 | | | | |

(c) HOME WATERS. JULY 1917.

Average number of vessels allotted daily to various services during the month.

Destroyers in Home Waters (not including Flotilla Leaders, Torpedo Boats, Destroyers attached to Submarine Flotillas, or P-boats),

| | | |
|---------------------------|-----------|-----|
| "River" Class and earlier | | 85 |
| Later than "River" Class | | 213 |
| United States Destroyers | | 35 |
| Total | | 333 |

*Grand Fleet.
Scapa and Rosyth.*

| | |
|--|-----|
| 11th, 12th, 13th, 14th, 15th Flotillas (104): (Rosyth from July 16) | |
| Based on Scapa (after 16th) | 9 |
| Screening and Patrol (not convoy) | 8 |
| Detached: | |
| Scandinavian Convoy (Lerwick and Swarbacks Minn) | 8 |
| Atlantic Convoy; escort of transports, etc. (Buncrana and Granton) | 10 |
| Harwich (from 24th) | 4 |
| Under repair | 9 |
| Anti-S/M operations by Grand Fleet, or in harbour | 56 |
| Total | 104 |

*Harwich Force.
Harwich.*

| | |
|---|----|
| 10th Flotilla (24), Detached (24th) from Grand Fleet (4): | |
| Escort of Dutch trade; support of Dover operations; escort of tugs and barges to and from Hook of Holland; escort of 3rd Battle Squadron or 5th Light Cruiser with Rotterdam; escort of mine-layers, action with German destroyers; patrol with Kite balloons; S/M and aircraft hunting | 22 |
| Under repair | 3 |
| In harbour | 3 |
| Total | 28 |

*Dover Force.
Dover and Dunkirk.
Dover Force (36):*

| | |
|---|----|
| Patrol of Straits; escort of transports and supply ships, minelayers; protection of trade in the Downs; defence of barrage; S/M hunting | 24 |
| Repairs | 9 |
| In harbour | 3 |
| Total | 36 |

| <i>Scapa and Cromarty.</i> | | | <i>Humber-Tyne-Lerwick.</i> | | | <i>The Nore.</i> | | |
|--|----|--|--|----|--|------------------------------------|------------------------------------|----|
| Local Defence Flotilla (11): | | | East Coast Convoy (7th) Flotilla (32): | | | Local Defence Flotilla (7): | | |
| Under defence | 9 | | On Scandinavian Convoy duty | 15 | | Escort, etc. | | 5 |
| Under repair | 2 | | Under repair | 6 | | Under repair | | 2 |
| Total | 11 | | In harbour | 11 | | Total | | 7 |
| | | | Total | 32 | | | | |
| <i>Portsmouth.</i> | | | <i>Devonport.</i> | | | <i>North, Buncrana.</i> | | |
| 1st Flotilla (12). | | | 2nd Flotilla (18). | | | Nucleus Convoy (2nd) Flotilla (4). | | |
| Escort Flotilla (Channel) (6). | | | 4th Flotilla (25). | | | Detached from 14th and 15th | U.S.A. Destroyers (35). | |
| Local Defence Flotilla (9): | | | Escort Flotilla (4): | | | Flotillas (8). | British Destroyers (2): | |
| Atlantic Convoy | 1 | | Atlantic Convoy | 10 | | Local Defence Flotilla (4): | | |
| Patrol of trade routes, S/M hunting, escort of transports and supply ships | 10 | | Patrol of trade routes, escort of transports and supply ships, S/M hunting | 16 | | Atlantic Convoy | Atlantic Convoy | 8 |
| Escort of minelayers | 4 | | Detached, Lisbon | 2 | | U.S. Troop Convoy | U.S. Troop Convoy | 10 |
| Detached to the <i>Vernon</i> | 3 | | " " | 4 | | Escort of transports, etc. | Escort of transports, etc. | 10 |
| Local defence | 3 | | " " | 2 | | Under repair | Under repair | 3 |
| Under repair | 4 | | Under repair | 5 | | In harbour | In harbour | 6 |
| In harbour | 2 | | In harbour | 8 | | Total | Total | 37 |
| Total | 27 | | Total | 47 | | | | |
| <i>Irish Command.</i> | | | <i>South, Queenstown.</i> | | | | | |
| | | | | | | | | |

IV
ATLANTIC CONVOYS, UNDER DESTROYER ESCORT. JUNE, JULY 1917

| Convoy Number. | Mercantile Convoy. | | | | Destroyer Escort. | | | | | | Total Escort. |
|---------------------|-----------------------|---------|-------------------------|-------------------------------|------------------------------------|------------|------------------|------------------|------------|------------------|-------------------|
| | Ocean Escort. | Sailed. | | Arrived destroyer rendezvous. | Number. | Base. | Date of sailing. | Number. | Base. | Date of sailing. | |
| | | Date. | Base. | | | | | | | | |
| HH. 1 (12 ships) | <i>Roxburgh</i> | May 24 | H.R. (Hampton Roads) | June 6 | 8 (4th Flot.) | Devonport | June 4 | | | | 8 |
| HH. 2 (12 ships) | <i>Isis</i> | June 4 | H.R. | " 18 | 8 (4th Flot.) | " | " 16 | | | | 8 |
| HH. 3 (9 ships) | <i>Drake</i> | " 13 | " | " 27 | 8 (4th Flot.) | " | " 25 | | | | 8 |
| HH. 4 (18 ships) | <i>Antrim</i> | " 19 | " | July 4 | 8 (4th Flot.) | " | July 1 | 4 (1st Flot.) | Portsmouth | July 3 | 12 |
| HH. 5 (20 ships) | <i>Carriagan Head</i> | " 25 | " | " 11 | 10 (4th Flot.) | " | " 8 | 2 (U.S.S.) | Queenstown | " 8 | 12 |
| HH. 6 (24 ships) | <i>Roxburgh</i> | July 2 | " | " 17 | 14 (4th Flot.) | " | " 15 | 6 (Convoy Flot.) | Portsmouth | " 16 | 14 (6 P-boats) |
| HH. 7 (17 ships) | <i>Highflyer</i> | " 10 | Sydney | " 20 | 8 (U.S.S.) | Queenstown | " 18 | 4 (4th Flot.) | Devonport | " 21 | 12 |
| HH. 8 (24 ships) | <i>Berwick</i> | " 6 | H.R. | " 21 | 5 (14th, 15th Flot.) (3 sloops) | Buncrana | " 19 | | | | 5 (3 sloops) |
| HH. 8 (14 ships) | <i>Sachem</i> | " 10 | " | " 25 | 8 (4th Flot.) | Devonport | " 22 | 6 (Convoy Flot.) | Portsmouth | " 24 | 8 (6 P-boats) |
| HN. 1 (19 ships) | U.S.S. <i>Albany</i> | " 14 | New York | " 28 | 8 (U.S.S.) | Queenstown | " 27 | 4 (4th Flot.) | Devonport | " 29 | 12 |
| HS. 2 (19 ships) | <i>Virginian</i> | " 20 | Sydney | " 29 | 8 (U.S.S.) | " | " 27 | 6 (4th Flot.) | " | " 30 | 14 |
| HH. 8 (20 ships) | <i>Knight Templar</i> | " 14 | H.R. | " 29 | 5 (14th, 15th Flot.) (2 sloops) | Buncrana | " 27 | | | | 5 (2 sloops) |

V

ATLANTIC CONVOY SYSTEM

Destroyers, Sloops and Patrol Boats employed on Escort Duty in the Danger Zone (not including Scandinavian or Dutch trade, or French Coal trade).

(a) July 1917.

| Base. | Flotilla. | Ships. | Flotilla established number. | Total number employed on escort duty during month. | Occasions on which each Flotilla was employed on Escort Duty during the month. | Total Convoys escorted. | |
|--------------------|------------------------------------|------------------|------------------------------|--|--|-------------------------|----------|
| | | | | | | Home-ward. | Outward. |
| Buncrana | 14th and 15th Flotillas (detached) | Destroyers | 8 | 5 | 2 | 9 | — |
| " | Sloop Flotilla | Sloops | 11 | 5 | 2 | | |
| Queenstown | U.S. Destroyer Flotilla | Destroyers | 28 | 16 | 3 | | |
| Devonport | 4th Destroyer Flotilla | " | 28 | 14 | 7 | | |
| Portsmouth | Convoy Flotilla | Patrol (P)-boats | 16 | 8 | 2 | | |
| | | | Total 91 | Total 48 | | | 9 |
| (b) November 1917. | | | | | | | |
| Buncrana | 2nd Destroyer Flotilla | Destroyers | 23 | 20 | 18 | 34 | 36 |
| " | Sloop Flotilla | Sloops | 12 | 10 | 15 | | |
| Queenstown | " | " | 12 | 8 | 13 | | |
| Pembroke | U.S. Flotilla | Destroyers | 37 | 28 | 15 | | |
| Devonport | Convoy Flotilla | Patrol (P)-boats | 12 | 9 | 8 | | |
| Portsmouth | 4th Destroyer Flotilla | Destroyers | 42 | 35 | 32 | | |
| | Convoy Flotilla | Patrol (P)-boats | 32 | 6 | 5 | | |
| | | | Total 170 | Total 116 | | | 70 |

(c) April 1918.

| Base. | Flotilla. | Ships. | Flotilla estab- lish- ment number. | Total number employed on Escort Duty month. | Occurrences on which each Flotilla was employed on Escort Duty during the month. | Total Convoys escorted. | |
|------------|-------------------------------|---------------------|--|--|--|-------------------------|--------------------|
| | | | | | | Home- ward. | Outward. Total. |
| Buncrana | 2nd Destroyer Flotilla | Destroyers | 27 | 21 | 23 | 37 | 71 |
| " | 3rd Destroyer Flotilla | " | 5 | 4 | 8 | | |
| " | North Channel Patrol | " | 6 | 2 | 4 | | |
| " | Sloop Flotilla | Sloops | 14 | 10 | 17 | | |
| " | North Sea Hydrophone Flotilla | " | 5 | 4 | 11 | | |
| Queenstown | U.S. Destroyer Flotilla | Destroyers | 39 | 28 | 14 | | |
| " | 15th Destroyer Flotilla | " | 2 | 2 | 1 | | |
| " | Sloop Flotilla | Sloops | 14 | 9 | 9 | | |
| Pembroke | Patrol Flotilla | Patrol (P. C)-boats | 14 | 8 | 11 | | |
| Devonport | 4th Destroyer Flotilla | Destroyers | 36 | 32 | 31 | | |
| Portsmouth | Patrol Flotilla | Patrol (P)-boats | 31 | 5 | 6 | | |
| | | | Total 193 | Total 125 | | | |

(d) September 1918.

| | | | | | | | |
|---------------|-----------------------------------|---------------------|-----------|-----------|----|----|----|
| Buncrana | 2nd Destroyer Flotilla | Destroyers | 25 | 19 | 18 | 35 | 73 |
| " | 2nd Sloop Flotilla | Sloops | 8 | 7 | 14 | | |
| " | North Channel Patrol | Destroyers | 6 | 2 | 2 | | |
| Queenstown | U.S. Destroyer Flotilla | " | 24 | 19 | 16 | | |
| " | 1st Sloop Flotilla | Sloops | 8 | 8 | 15 | | |
| Devonport | 4th Destroyer Flotilla | Destroyers | 41 | 34 | 30 | | |
| " | 2nd Destroyer Flotilla (detached) | " | 7 | 7 | 15 | | |
| Portsmouth | 1st Destroyer Flotilla | " | 8 | 1 | 1 | | |
| " | Extended Defence Flotilla | " | 5 | 1 | 1 | | |
| Milford Haven | Patrol Flotilla | Patrol (P. C)-boats | 18 | 16 | 17 | | |
| | | | Total 150 | Total 114 | | | |

APPENDIX B

CONVOY SYSTEM

STATISTICAL TABLES ILLUSTRATING THE VOLUME OF TRADE CONVOYED.

- I (a). Chronological table: Atlantic Convoys, May 1917–November 1918.
- (b). Chronological table: Summary.
- II (a). Chronological table: Scandinavian Convoys, Norway–Humber, April 29, 1917–January 16, 1918.
- (b). Chronological table: Norway–East Coast, England, January 16, 1918–November 1918.
- III (a). Chronological table: French Coal Trade Convoys, March–December 1917.
- (b). Chronological table: January–November 1918.

ABBREVIATIONS USED IN DESCRIBING CONVOYS

| HOMEWARD. | | OUTWARD. | |
|---------------|--|---------------------------------|--|
| Sailing from— | | Sailing from— | |
| H.B. | Bay of Biscay (French ports in). | O.B. | Buncrana. |
| H.C. | Halifax (later Quebec, troop convoys). | O.C. | Southend. |
| H.D. | Dakar. | O.D. | Devonport. |
| H.E. | Mediterranean (through). | O.E. | Liverpool (for Eastern Mediterranean). |
| H.G. | Gibraltar. | O.F. | Falmouth. |
| H.H. | Hampton Roads. | O.L. | Liverpool. |
| H.J. | Rio de Janeiro. | O.L.B. | Liverpool (slow). |
| H.J.D. | Rio de Janeiro (joined H.D. convoys). | O.L.X. | Liverpool (for Halifax). |
| H.J.L. | Rio de Janeiro (joined H.L. convoys). | O.M. | Milford. |
| H.L. | Sierra Leone. | O.R. | Brest |
| H.S. | Sydney. | O.P. | Quiberon |
| H.X. | Halifax (or New York). | O.V. | Verdon |
| | | } Returning U.S. Troop Convoys. | |

Note.—This list does not include Scandinavian Convoys, Dutch Patrol, or French Coal Trade.

ATLANTIC CONVOYS
(a) May 1917–November 1918

| HOMEWARD. | | | | OUTWARD. | | | | TOTAL. | | | | |
|---|--------------|--------|--------------------|------------------------|---------------|--------------|--------|--------------------|------------------------|-------------------------|---------|---|
| 1917 | Con- voy. | Ships. | Losses. | | 1917 | Con- voy. | Ships. | Losses. | | Ships Con- voyed. | Losses. | |
| | | | In Con- voy. | Out of Con- voy. | | | | In Con- voy. | Out of Con- voy. | | | |
| <i>May</i> Hampton Roads (HH) Gibraltar (HG) | 1 | 12 | 0 | 0 | <i>May</i> | | | | | 1 | 12 | |
| | 1 | 16 | 0 | 0 | | | | | | 1 | 16 | |
| | 2 | 28 | 0 | 0 | | | | | | 2 | 28 | |
| <i>June</i> Hampton Roads | 4 | 60 | 0 | 0 | <i>June</i> | | | | | 4 | 60 | |
| | | | | | | | | | | | | 0 |
| <i>July</i> Hampton Roads Gibraltar New York (HN) Sydney (HS) | 8 | 161 | 1 | 0 | <i>July</i> | | | | | 8 | 161 | |
| | 2 | 22 | 1 | 0 | | | | | | 2 | 22 | |
| | 2 | 36 | 0 | 0 | | | | | | 2 | 36 | |
| | 3 | 47 | 0 | 1 | | | | | | 3 | 47 | |
| | 15 | 266 | 2 | 1 | | | | | | 15 | 266 | |
| <i>August</i> Hampton Roads Gibraltar New York (HN) Sydney Sierra Leone (HL) Dakar (HD) Halifax (HX) (26 to 56 sailed from New York) | 8 | 159 | 3 | 1 | <i>August</i> | | | | | 13 | 240 | |
| | 7 | 120 | 1 | 0 | | | | | | 5 | 81 | 0 |
| | 5 | 66 | 0 | 1 | | | | | | 3 | 22 | 0 |
| | 4 | 52 | 1 | 0 | | | | | | 3 | 19 | 0 |
| | 2 | 12 | 1 | 0 | | | | | | 4 | 53 | 2 |
| | 2 | 32 | 0 | 0 | | | | | | 4* | 44 | 0 |
| | 1 | 6 | 0 | 0 | | | | | | | | 0 |
| | 29 | 447 | 6 | 2 | | | | | | 18 | 219 | 2 |
| | | | | | | | | | | 47 | 666 | |
| | | | | | | | | | | | 10 | |

* Numbers include all merchant vessels that sailed. Losses do not include ships attacked by submarines and disabled, but not sunk.

APPENDIX B

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| <i>September</i> | | <i>October</i> | | <i>November</i> | |
|----------------------------|----|----------------|----------------------|-----------------|---|
| Hampton Roads | 5 | 105 | 2 | 2 | 2 |
| Gibraltar | 7 | 137 | 0 | 0 | 0 |
| New York (HN) | 5 | 61 | 0 | 0 | 0 |
| Sydney | 4 | 80 | 0 | 1 | 0 |
| Sierra Leone | 4 | 26 | 0 | 0 | 0 |
| Dakar | 4 | 45 | 0 | 0 | 0 |
| Halifax (HX) | 4 | 41 | 0 | 0 | 0 |
| | 33 | 505 | 2 | 5 | |
| <i>October</i> | | | | | |
| Hampton Roads | 4 | 82 | 0 | 0 | 0 |
| Gibraltar | 9 | 124 | 4 | 0 | 0 |
| New York (HN) | 8 | 141 | 1 | 0 | 0 |
| Sydney | 4 | 96 | 1 | 0 | 0 |
| Sierra Leone | 4 | 35 | 0 | 0 | 0 |
| Dakar | 4 | 45 | 1 | 1 | 0 |
| | | | (ocean escort) | | |
| Halifax | 4 | 27 | 0 | 0 | 0 |
| | 37 | 550 | 7 | 1 | |
| <i>November</i> | | | | | |
| Hampton Roads | 3 | 59 | 0 | 2 | 2 |
| Gibraltar | 8 | 100 | 2 | 2 | 0 |
| New York (HN) | 8 | 123 | 1 | 0 | 0 |
| Sydney | 4 | 93 | 0 | 2 | 0 |
| Sierra Leone | 4 | 35 | 0 | 1 | 0 |
| | | | (after dis-persal) | | |
| Dakar | 4 | 66 | 0 | 3 | 0 |
| | | | (2 after dis-persal) | | |
| Halifax | 3 | 26 | 0 | 0 | 0 |
| Through Mediterranean (HE) | 2 | 15 | 3 | 0 | 0 |
| | 36 | 517 | 6 | 10 | |

| HOMEWARD. | | | | | OUTWARD. | | | | | TOTAL. | |
|-----------------------|--------------|--------|--------------------|------------------------|-----------------------|--------------|--------|--------------------|------------------------|---------------|-------------------------|
| 1917 | Con- voy. | Ships. | Losses. | | 1917 | Con- voy. | Ships. | Losses. | | Con- voys. | Ships Con- voyed. |
| | | | In Con- voy. | Out of Con- voy. | | | | In Con- voy. | Out of Con- voy. | | |
| <i>December</i> | | | | | <i>December</i> | | | | | | |
| Hampton Roads | 4 | 59 | 0 | 0 | Milford | 7 | 213 | 2 | 0 | 11 | 272 |
| Gibraltar | 8 | 97 | 0 | 0 | Falmouth | 4 | 76 | 3 | 0 | 12 | 173 |
| New York (HN) | 8 | 128 | 1 | 0 | Queenstown | 7 | 26 | 0 | 0 | 15 | 154 |
| Sydney | 4 | 67 | 0 | 0 | Buncrana (Lamlash) | 7 | 73 | 2 | 0 | 11 | 140 |
| Sierra Leone | 4 | 28 | 1 | 0 | Devonport | 10 | 152 | 0 | 0 | 14 | 180 |
| Dakar | 4 | 40 | 1 | 0 | Eastern Mediterranean | 2 | 15 | 1 | 0 | 6 | 55 |
| Halifax | 4 | 25 | 0 | 0 | | | | | | 4 | 25 |
| Through Mediterranean | 1 | 8 | 0 | 0 | | | | | | 1 | 8 |
| | 37 | 452 | 3 | 0 | | 37 | 555 | 8 | 0 | 74 | 1007 |
| <i>1918</i> | | | | | <i>1918</i> | | | | | | |
| <i>January</i> | | | | | <i>January</i> | | | | | | |
| Hampton Roads | 4 | 79 | 0 | 3 | Milford | 8 | 195 | 1 | 0 | 12 | 274 |
| Gibraltar | 7 | 126 | 0 | 1 | Falmouth | 4 | 41 | 0 | 0 | 11 | 167 |
| New York (HN) | 8 | 137 | 0 | 2 | Queenstown | 1 | 5 | 0 | 0 | 9 | 142 |
| Sydney | 4 | 74 | 0 | 0 | Buncrana (or Lamlash) | 9 | 82 | 0 | 0 | 13 | 156 |
| Sierra Leone | 3 | 16 | 0 | 0 | Devonport | 10 | 74 | 0 | 0 | 13 | 90 |
| Dakar | 3 | 35 | 0 | 0 | Eastern Mediterranean | 2 | 13 | 0 | 1 | 5 | 48 |
| Halifax | 4 | 30 | 2 | 0 | | | | | | 4 | 30 |
| Through Mediterranean | 2 | 38 | 0 | 0 | | | | | | 2 | 38 |
| | 35 | 535 | 2 | 6 | | 34 | 410 | 1 | 1 | 69 | 945 |
| <i>February</i> | | | | | <i>February</i> | | | | | | |
| Hampton Roads | 5 | 99 | 0 | 1 | Milford | 7 | 185 | 0 | 0 | 12 | 284 |
| Gibraltar | 7 | 125 | 1 | 1 | Falmouth | 4 | 42 | 0 | 0 | 11 | 167 |
| New York (HN) | 7 | 145 | 2 | 0 | Buncrana (or Lamlash) | 7 | 67 | 0 | 0 | 14 | 212 |
| Sydney | 3 | 60 | 1 | 0 | Devonport | 9 | 104 | 0 | 0 | 12 | 164 |
| | | | (ocean escort | | | | | | | | |
| Sierra Leone | 4 | 31 | 0 | 0 | Eastern Mediterranean | 1 | 8 | 1 | 0 | 5 | 39 |
| Dakar | 4 | 55 | 0 | 0 | Liverpool (OL) | 1 | 3 | 0 | 0 | 5 | 58 |
| Halifax | 4 | 34 | 0 | 0 | Special: not OL. 1. | | | | | 4 | 34 |
| Through Mediterranean | 1 | 11 | 1 | 0 | | | | | | 1 | 11 |
| | 35 | 560 | 5 | 2 | | 29 | 409 | 1 | 0 | 64 | 969 |

| | | | | | | | | | | | |
|---------------------------|----|-----|-------------------|---|------------------------------------|----|-----|---|---|----|------|
| Hampton Roads | 4 | 89 | 1 | 1 | Milford | 7 | 206 | 0 | 0 | 11 | 295 |
| Gibraltar | 8 | 141 | 1 | 0 | Falmouth | 3 | 35 | 0 | 0 | 11 | 176 |
| New York | 7 | 163 | 2 | 0 | Buncrana (or Lamlash) | 8 | 90 | 1 | 0 | 15 | 253 |
| Sydney | 4 | 89 | 0 | 1 | Devonport | 11 | 115 | 1 | 0 | 15 | 204 |
| Sierra Leone | 4 | 27 | 0 | 0 | Eastern Mediterranean | 2 | 24 | 0 | 0 | 6 | 51 |
| Dakar | 4 | 44 | 0 | 0 | Liverpool | 2 | 17 | 1 | 0 | 6 | 61 |
| Halifax (HX) | 3 | 25 | 0 | 0 | | | | | | 3 | 25 |
| (2 sailed from New York.) | | | | | | | | | | | |
| Through Mediterranean | 2 | 25 | 0 | 0 | | | | | | 2 | 25 |
| Rio de Janeiro (HJ) | 3 | 23 | 0 | 0 | | | | | | 3 | 23 |
| | 39 | 626 | 4 | 2 | | 33 | 487 | 3 | 0 | 72 | 1113 |
| <i>April</i> | | | | | <i>April</i> | | | | | | |
| Hampton Roads | 3 | 54 | 0 | 0 | Milford | 8 | 178 | 0 | 0 | 11 | 232 |
| Gibraltar | 8 | 129 | 1 | 1 | Falmouth | 4 | 48 | 0 | 0 | 12 | 177 |
| New York (HN) | 8 | 196 | 2 | 0 | Buncrana (Lamlash or Liverpool) | 7 | 52 | 1 | 0 | 15 | 248 |
| Sydney | 4 | 110 | 1 | 1 | Devonport | 9 | 97 | 1 | 0 | 13 | 207 |
| Sierra Leone | 3 | 32 | 0 | 0 | Eastern Mediterranean | 1 | 19 | 0 | 0 | 4 | 51 |
| Dakar | 4 | 32 | 0 | 1 | Liverpool | 6 | 46 | 0 | 0 | 10 | 78 |
| New York (HX) | 4 | 31 | 0 | 0 | | | | | | 4 | 31 |
| Through Mediterranean | 2 | 42 | 3 | 0 | | | | | | 2 | 42 |
| Rio de Janeiro (HJ) | 4 | 67 | 1 | 0 | | | | | | 4 | 67 |
| Rio de Janeiro (HJL) | 2 | 9 | 1 | 0 | | | | | | 2 | 9 |
| Bay of Biscay (HB) | 1 | 8 | 0 | 0 | | | | | | 1 | 8 |
| | 43 | 710 | 9 | 3 | | 35 | 440 | 2 | 0 | 78 | 1150 |
| <i>May</i> | | | | | <i>May</i> | | | | | | |
| Hampton Roads | 4 | 89 | 1 | 1 | Milford | 8 | 199 | 0 | 0 | 12 | 288 |
| Gibraltar | 7 | 97 | 1 | 1 | Falmouth | 4 | 59 | 0 | 0 | 11 | 156 |
| New York (HN) | 4 | 106 | 3 | 0 | Buncrana (Lamlash or Liverpool) | 6 | 96 | 0 | 0 | 10 | 202 |
| Sydney | 4 | 98 | 1 | 1 | Devonport | 14 | 151 | 1 | 0 | 18 | 249 |
| Sierra Leone | 4 | 22 | 1 | 0 | Eastern Mediterranean | 2 | 35 | 2 | 0 | 6 | 57 |
| Dakar | 3 | 23 | 0 | 0 | Liverpool | 7 | 44 | 0 | 0 | 10 | 67 |
| New York (HX) | 4 | 47 | 0 | 0 | | | | | | 4 | 47 |
| Through Mediterranean | 2 | 44 | 0 | 0 | | | | | | 2 | 44 |
| Rio de Janeiro (HJ) | 4 | 44 | 0 | 0 | | | | | | 4 | 44 |
| Rio de Janeiro (HJL) | 1 | 5 | 0 | 0 | | | | | | 1 | 5 |
| Bay | 2 | 17 | 0 | 0 | | | | | | 2 | 17 |
| Halifax Channel (HC) | 3 | 21 | 1 | 0 | | | | | | 3 | 21 |
| | | | (ocean escort) | | | | | | | | |
| | 42 | 613 | 8 | 3 | | 41 | 584 | 3 | 0 | 83 | 1197 |

| HOMEWARD. | | | | | OUTWARD. | | | | | TOTAL. | |
|-----------------------|--------------|--------|--------------------|------------------------|------------------------------------|--------------|--------|--------------------|------------------------|---------------|-------------------------|
| 1918 | Con- voy. | Ships. | Losses. | | 1918 | Con- voy. | Ships. | Losses. | | Con- voys. | Ships Con- voyed. |
| | | | In Con- voy. | Out of Con- voy. | | | | In Con- voy. | Out of Con- voy. | | |
| <i>June</i> | | | | | <i>June</i> | | | | | | |
| Hampton Roads | 4 | 98 | 1 | 1 | Milford | 7 | 156 | 1 | 0 | 11 | 254 |
| Gibraltar | 8 | 149 | 2 | 0 | Falmouth | 4 | 66 | 0 | 0 | 12 | 215 |
| New York (HN) | 4 | 116 | 0 | 0 | Buncrana (Lamlash or Liverpool) | 4 | 84 | 1 | 0 | 8 | 200 |
| Sydney | 3 | 87 | 0 | 1 | Devonport | 12 | 143 | 2 | 0 | 15 | 230 |
| Sierra Leone | 3 | 19 | 0 | 0 | Eastern Mediterranean | 2 | 41 | 1 | 0 | 5 | 60 |
| Dakar | 4 | 28 | 0 | 0 | Liverpool | 8 | 63 | 2 | 0 | 12 | 91 |
| New York (HX) | 4 | 44 | 0 | 0 | Liverpool-Buncrana (OLB) | 1 | 8 | 0 | 0 | 5 | 52 |
| Through Mediterranean | 2 | 35 | 0 | 0 | Southend (OC) | 2 | 17 | 0 | 0 | 4 | 57 |
| Rio de Janeiro (HJ) | 3 | 57 | 0 | 0 | | | | | | 2 | 39 |
| Bay | 2 | 39 | 0 | 1 | | | | | | 4 | 45 |
| Halifax Channel | 4 | 45 | 0 | 0 | | | | | | | |
| | 41 | 717 | 3 | 3 | | 40 | 578 | 7 | 0 | 81 | 1295 |
| <i>July</i> | | | | | <i>July</i> | | | | | | |
| Hampton Roads | 4 | 123 | 0 | 0 | Milford | 8 | 199 | 1 | 0 | 12 | 322 |
| Gibraltar | 8 | 128 | 0 | 1 | Falmouth | 4 | 49 | 2 | 0 | 12 | 177 |
| New York (HN) | 4 | 81 | 1 | 0 | Buncrana (Lamlash or Liverpool) | 3 | 36 | 0 | 0 | 7 | 117 |
| Sydney | 4 | 104 | 0 | 0 | Devonport | 7 | 103 | 1 | 0 | 11 | 267 |
| Sierra Leone | 4 | 25 | 0 | 0 | Eastern Mediterranean | 1 | 8 | 0 | 0 | 5 | 33 |
| Dakar | 4 | 26 | 0 | 0 | Liverpool | 6 | 44 | 1 | 0 | 10 | 70 |
| New York (HX) | 4 | 54 | 0 | 0 | Liverpool-Buncrana | 3 | 25 | 0 | 0 | 7 | 79 |
| Through Mediterranean | 2 | 27 | 0 | 0 | Southend | 2 | 20 | 0 | 0 | 4 | 47 |
| Rio de Janeiro (HJ) | 4 | 80 | 0 | 0 | Liverpool (OLX)-Halifax Fast | 2 | 20 | 1 | 0 | 6 | 100 |
| Bay | 2 | 54 | 2* | 0 | | | | | | 2 | 54 |
| Halifax Channel | 4 | 64 | 0 | 0 | | | | | | 4 | 64 |
| | 44 | 766 | 3 | 1 | | 36 | 504 | 6 | 0 | 80 | 1270 |

* French Cruiser *Dupetit-Thouars*, escort, is included.

| | <i>August</i> | | | | | <i>August</i> | | | | | |
|-----------------------|-------------------|-----|----|---|------------------------------------|-------------------|-----|---|---|----|------|
| | | | | | | | | | | | |
| Hampton Roads | 4 | 111 | 0 | 0 | Milford | 7 | 169 | 2 | 0 | 11 | 280 |
| Gibraltar | 7 | 99 | 1 | 0 | Falmouth | 3 | 45 | 0 | 0 | 10 | 144 |
| New York (HN) | 4 | 89 | 1 | 0 | Buncrana (Lamlash or Liverpool) | 5 | 51 | 0 | 0 | 9 | 140 |
| Sydney | 4 | 127 | 1 | 0 | Devonport | 8 | 144 | 1 | 0 | 12 | 271 |
| Sierra Leone | 4 | 39 | 0 | 0 | Eastern Mediterranean | 2 | 16 | 0 | 0 | 6 | 55 |
| Dakar | 4 | 36 | 0 | 0 | Liverpool | 6 | 51 | 2 | 0 | 10 | 87 |
| New York (HX) | 3 | 34 | 0 | 0 | Liverpool-Buncrana Slow | 3 | 35 | 0 | 0 | 6 | 69 |
| Through Mediterranean | 2 | 33 | 0 | 1 | Southend | 2 | 24 | 0 | 0 | 4 | 57 |
| Rio de Janeiro (HJ) | 1 | 18 | 0 | 0 | Liverpool-Halifax Fast | 4 | 26 | 0 | 0 | 5 | 44 |
| Bay | 4 | 73 | 2 | 0 | | | | | | 4 | 73 |
| Halifax Channel | 4 | 57 | 0 | 0 | | | | | | 4 | 57 |
| | 41 | 716 | 5 | 1 | | 40 | 561 | 5 | 0 | 81 | 1277 |
| | <i>September.</i> | | | | | <i>September.</i> | | | | | |
| | | | | | | | | | | | |
| Hampton Roads | 3 | 100 | 0 | 0 | Milford | 8 | 179 | 2 | 0 | 11 | 279 |
| Gibraltar | 8 | 106 | 2 | 1 | Falmouth | 4 | 65 | 0 | 0 | 12 | 171 |
| New York (HN) | 4 | 78 | 0 | 0 | Buncrana (Lamlash or Liverpool) | 4 | 45 | 0 | 0 | 8 | 123 |
| Sydney | 4 | 125 | 0 | 1 | Devonport | 8 | 130 | 2 | 0 | 12 | 255 |
| Sierra Leone | 4 | 27 | 1 | 0 | Eastern Mediterranean | 2 | 20 | 0 | 0 | 6 | 47 |
| Dakar | 4 | 59 | 1 | 0 | Liverpool | 4 | 38 | 1 | 0 | 8 | 97 |
| New York (HX) | 4 | 50 | 1* | 0 | Liverpool-Buncrana | 3 | 25 | 0 | 0 | 7 | 75 |
| Through Mediterranean | 2 | 19 | 0 | 0 | Southend | 2 | 15 | 0 | 0 | 4 | 34 |
| Bay | 4 | 73 | 0 | 0 | Liverpool-Halifax | 4 | 47 | 0 | 0 | 8 | 120 |
| Halifax Channel | 4 | 57 | 0 | 0 | | | | | | 4 | 57 |
| | 41 | 694 | 5 | 2 | | 39 | 564 | 5 | 0 | 80 | 1258 |

* Otranto ocean escort. Lost in collision.

| HOMEBWARD. | | | | OUTWARD. | | | | TOTAL. | | | |
|-----------------------|--------------|--------|--------------------|------------------------|--|--------------|--------|--------------------|------------------------|-------------------------|---------|
| 1918. | Con- voy. | Ships. | Losses. | | 1918. | Con- voy. | Ships. | Losses. | | Ships Con- voyed. | Losses. |
| | | | In Con- voy. | Out of Con- voy. | | | | In Con- voy. | Out of Con- voy. | | |
| <i>October</i> | | | | | | | | | | | |
| Hampton Roads | 4 | 99 | 0 | 0 | Milford | 8 | 179 | 0 | 0 | 278 | 0 |
| Gibraltar | 8 | 110 | 1 | 0 | Falmouth | 4 | 67 | 0 | 0 | 177 | 1 |
| New York (HN) | 3 | 84 | 0 | 0 | Buncrana (Lamlash or Liverpool) | 3 | 29 | 0 | 0 | 113 | 0 |
| Sydney | 4 | 138 | 0 | 0 | Devonport | 8 | 90 | 0 | 0 | 228 | 0 |
| Sierra Leone | 4 | 26 | 0 | 1 | Eastern Mediterranean | 2 | 35 | 0 | 0 | 61 | 1 |
| Dakar | 4 | 46 | 0 | 0 | Liverpool | 4 | 32 | 0 | 0 | 8 | 0 |
| New York (HX) | 4 | 50 | 0 | 0 | Liverpool-Buncrana O.L.B. 15 did not sail | 4 | 23 | 0 | 0 | 73 | 0 |
| Through Mediterranean | 2 | 32 | 0 | 0 | Southend | 2 | 16 | 0 | 0 | 48 | 0 |
| Bay | 4 | 87 | 1 | 0 | Liverpool-Halifax Fast | 3 | 34 | 0 | 0 | 121 | 1 |
| Halifax Channel | 4 | 38 | 0 | 0 | | | | | | 38 | 0 |
| | 41 | 710 | 2 | 1 | | 38 | 505 | 0 | 0 | 79 | 3 |
| <i>November</i> | | | | | | | | | | | |
| Hampton Roads | 2 | 40 | 0 | 0 | Milford | 2 | 29 | 0 | 0 | 69 | 0 |
| Gibraltar | 2 | 17 | 0 | 0 | Falmouth | 1 | 19 | 0 | 0 | 36 | 0 |
| New York (HN) | 2 | 32 | 0 | 0 | Devonport | 2 | 18 | 0 | 0 | 50 | 0 |
| Sydney | 1 | 29 | 0 | 0 | Eastern Mediterranean | 1 | 10 | 0 | 0 | 39 | 0 |
| Sierra Leone | 1 | 2 | 0 | 0 | Liverpool | 1 | 5 | 0 | 0 | 7 | 0 |
| Dakar | 1 | 12 | 0 | 0 | Southend | 1 | 3 | 0 | 0 | 15 | 0 |
| New York (HX) | 2 | 21 | 0 | 0 | | | | | | 21 | 0 |
| Through Mediterranean | 1 | 17 | 0 | 0 | | | | | | 17 | 0 |
| Bay | 1 | 26 | 0 | 0 | | | | | | 26 | 0 |
| Halifax Channel * | 2 | 23 | 0 | 0 | | | | | | 23 | 0 |
| Sydney † | 15 | 219 | 0 | 0 | | 8 | 84 | 0 | 0 | 23 | 0 |

* HC. 25, which is included with the above as one convoy, was not really a convoy, as each ship sailed independently.

† HS. 63. Preliminary arrangements were made for the sailing of this convoy, but owing to the Armistice vessels proceeded independently.

APPENDIX B

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(b) Summary

| | Homeward. | | Losses. | | Outward. | | Losses. | | Total Convoys. | Total Ships Convoys. | Total Losses. | Remarks. |
|-----------|-----------|--------|---------|------|----------|--------|---------|------|----------------|----------------------|---------------|--|
| | Convoys. | Ships. | In. | Out. | Convoys. | Ships. | In. | Out. | | | | |
| 1917 | | | | | | | | | | | | |
| May | 2 | 28 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 28 | 0 | The average strength of each convoy was 14 ships. The percentage of loss to ships' sailings = 0.98. The actual number of ships used is not shown, but the loss was approximately 4%. |
| June | 4 | 60 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 60 | 0 | |
| July | 15 | 266 | 2 | 1 | 0 | 0 | 0 | 0 | 15 | 266 | 3 | |
| August | 29 | 447 | 6 | 2 | 18 | 219 | 2 | 0 | 47 | 666 | 10 | |
| September | 33 | 505 | 2 | 5 | 37 | 570 | 0 | 0 | 70 | 1,075 | 7 | |
| October | 37 | 550 | 7 | 1 | 35 | 480 | 6 | 0 | 72 | 1,040 | 14 | |
| November | 36 | 517 | 6 | 10 | 37 | 431 | 2 | 0 | 73 | 948 | 18 | |
| December | 37 | 452 | 3 | 0 | 37 | 555 | 8 | 0 | 74 | 1,007 | 11 | |
| 1918 | | | | | | | | | | | | |
| January | 35 | 535 | 2 | 6 | 34 | 410 | 1 | 1 | 69 | 945 | 10 | |
| February | 35 | 560 | 5 | 2 | 29 | 409 | 1 | 0 | 64 | 969 | 8 | |
| March | 39 | 626 | 4 | 2 | 33 | 487 | 3 | 0 | 72 | 1,113 | 9 | |
| April | 43 | 710 | 9 | 3 | 35 | 440 | 2 | 0 | 78 | 1,150 | 14 | |
| May | 42 | 613 | 8 | 3 | 41 | 584 | 3 | 0 | 83 | 1,197 | 14 | |
| June | 41 | 717 | 3 | 3 | 40 | 578 | 7 | 0 | 81 | 1,295 | 13 | |
| July | 44 | 766 | 3 | 1 | 36 | 504 | 6 | 0 | 80 | 1,270 | 10 | |
| August | 41 | 716 | 5 | 1 | 40 | 561 | 5 | 0 | 81 | 1,277 | 11 | |
| September | 41 | 694 | 5 | 2 | 39 | 564 | 5 | 0 | 80 | 1,258 | 12 | |
| October | 41 | 710 | 2 | 1 | 38 | 505 | 0 | 0 | 79 | 1,215 | 3 | |
| November | 15 | 219 | 0 | 0 | 8 | 84 | 0 | 0 | 23 | 303 | 0 | |
| | 610 | 9691 | 72 | 43 | 537 | 7391 | 51 | 1 | 1147 | 17,082 | 167 | |

II

SCANDINAVIAN CONVOY

(a) NORWAY-HUMBER

The list does not include short-distance convoys to or from the east or west coast of England, or en route for the White Sea.

Abbreviations:—ABS = Armed Boarding Steamer.

TBD = Torpedo Boat Destroyer.

APV = Auxiliary Patrol Vessel (including Patrol Gunboats, Armed Yachts, Trawlers and Whalers).

| Date. | Eastbound Routes. | Con-voys. | Ships. | Average escort. | Losses. | Date. | Westbound Routes. | Con-voys. | Ships. | Average escort. | Losses. |
|---------------------|----------------------------------|-----------|------------|----------------------------------|------------|---------------------|----------------------------------|-----------|------------|--|------------|
| 1917 April 29-30 | Humber-Lerwick Lerwick-Bergen | 2 2 | 11 16 | 2 TBD 5 APV 3 TBD 4 APV | | 1917 April 29-30 | Bergen-Lerwick Lerwick-Humber | 2 2 | 16 10 | 2 TBD 4 APV 2 TBD 3 APV | |
| May | Humber-Lerwick Lerwick-Bergen | 24 25 | 289 146 | 2 TBD 6 APV 3 TBD 6 APV | 1 | May | Bergen-Lerwick Lerwick-Humber | 23 21 | 194 154 | 3 TBD 6 APV 2 TBD 6-8 APV | |
| June | Humber-Lerwick Lerwick-Bergen | 24 27 | 279 173 | 2 TBD 6 APV 3 TBD 5 APV | 1 | June | Bergen-Lerwick Lerwick-Humber | 25 23 | 224 165 | 3 TBD 1 APV 2 TBD 6 APV | 4 1 TED |
| July | Humber-Lerwick Lerwick-Bergen | 23 25 | 291 189 | 2 TBD 6 APV 3 TBD 5 APV | 2 1 TBD | July | Bergen-Lerwick Lerwick-Humber | 29 23 | 236 219 | 3 TBD 1 APV 3 TBD 6 APV | |
| Aug. | Humber-Lerwick Lerwick-Bergen | 23 25 | 259 198 | 2 TBD 6 APV 3 TBD 1 APV | 3 2 | Aug. | Bergen-Lerwick Lerwick-Humber | 31 23 | 255 206 | 3 TBD 1 APV (Screen half way) 2 TBD 6 APV | 7 |

APPENDIX B

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| | | | | | | | | | | | |
|---|----------------------------------|--------|----------|------------------------------------|---|--|----------------------------------|--------|----------|--|---|
| Sept. | Humber-Lerwick Lerwick-Bergen | 23 | 260 | 2 TBD 5 APV 2 TBD 1 APV | | Sept. | Bergen-Lerwick Lerwick-Humber | 25 | 106 | 3 TBD 1 APV 2 TBD 6 APV | |
| Oct. | Humber-Lerwick | 20 | 193 | 2 TBD 5 APV | | Oct. | Bergen-Lerwick | 21 | 247 | 2 TBD 4 APV | 2 TBD 12 ships (2 damaged) 2 sunk } sub- } surface |
| | Lerwick-Bergen | 23 | 202 | 2 TBD 4 APV | 1 TBD | | Lerwick-Humber | 21 | 188 | 2 TBD 6 APV | |
| Nov. | Humber-Lerwick | 19 | 232 | 2 TBD 6 APV | | Nov. | Bergen-Lerwick | 22 | 207 | 2 TBD 4 APV | |
| | Lerwick-Bergen | 22 | 185 | 2 TBD 4 APV | | | Lerwick-Humber | 17 | 154 | 2 TBD 6 APV | |
| Dec. | Humber-Lerwick | 12 | 197 | 2 TBD 6 APV 8 TBD 9 APV | 1 TBD 4 APV 6 ships 1 TBD (damaged) | Dec. After Dec. 14 convoy sailed every 3rd day | Bergen-Lerwick | 13 | 239 | 2 TBD 4 APV 4 TBD | |
| | Lerwick-Bergen | 14 | 178 | 2 TBD 4 APV 4 TBD 10 APV | | | Lerwick-Humber | 13 | 170 | 10 APV 2 TBD 5 APV 3 TBD 9 APV | |
| 1918 Jan. 1 to 16 (old system) | Humber-Lerwick Lerwick-Bergen | 3 4 | 66 53 | 3 TBD 10 APV 4 TBD 10 APV | | 1918 Jan. 1 to 16 (old system) | Bergen-Lerwick Lerwick-Humber | 4 4 | 36 18 | 4 TBD 10 APV 3 TBD 8 APV | |

(b) NORWAY-EAST COAST, ENGLAND.

| Date. | Eastbound Routes. | Con-voys. | Ships | Average escort. | Losses. | Date. | Westbound Routes. | Con-voys. | Ships | Average escort. | Losses. |
|---|--------------------------------|-----------|-------|-------------------------|----------------|----------------------------|--|-----------|-------|-------------------------|---------|
| 1918 Jan. New system started Jan. 16 | UT. Humber-Tyne | 14 | 46 | 1 TBD 4 APV | 1 | 1918 Jan. 16 onwards | HZ. Marsten (Norway)-Methyl-Tyne-Humber | 4 | 70 | 1 ABS 2 TBD 9 APV | 2 |
| | TM. Tyne-Methyl | 16 | 106 | 1 PB 4 APV | 2 | | MT. Methyl-Tyne | 9 | 28 | 1 TBD 1 TBD 3 APV | |
| | OZ. Methyl-Marsten (Norway) | 4 | 86 | 1 ABS 2 TBD 9 APV | | | TU. Tyne-Humber | 17 | 188 | 1 TBD 1 TBD 4 APV | |
| Feb. | UT. Humber-Tyne | 27 | 94 | 1 TBD 4 APV | | Feb. | HZ. Marsten (Norway)-Methyl-Tyne-Humber | 8 | 217 | 1 ABS 2 TBD 9 APV | 1 |
| | TM. Tyne-Methyl | 27 | 110 | 1 TBD 4 APV | 2 (Weather) | | MT. Methyl-Tyne | 28 | 117 | 1 TBD 3 APV | |
| | OZ. Methyl-Marsten (Norway) | 7 | 168 | 1 ABS 2 TBD 9 APV | | | TU. Tyne-Humber | 26 | 217 | 1 TBD 1 TBD 5 APV | |
| Mar. | UT. Humber-Tyne | 30 | 173 | 1 TBD 4 APV | | Mar. | HZ. Marsten (Norway)-Methyl-Tyne-Humber | 8 | 240 | 1 ABS 2 TBD 9 APV | 1 ABS |
| | TM. Tyne-Methyl | 30 | 177 | 1 TBD 4 APV | 3 ABS 2 ABS | | MT. Methyl-Tyne | 28 | 89 | 1 TBD 3 APV | |
| | OZ. Methyl-Marsten (Norway) | 9 | 243 | 1 ABS 2 TBD 9 APV | | | TU. Tyne-Humber | 30 | 447 | 1 TBD 1 TBD 5 APV | |
| April | UT. Humber-Tyne | 26 | 184 | 1 TBD 4 APV | | April | HZ. Marsten (Norway)-Methyl-Tyne-Humber | 7 | 192 | 1 ABS 2 TBD 9 APV | |
| | TM. Tyne-Methyl | 27 | 209 | 1 TBD 5 APV | | | MT. Methyl-Tyne | 27 | 98 | 1 TBD 3 APV | |
| | OZ. Methyl-Marsten (Norway) | 7 | 194 | 1 ABS 2 TBD 9 APV | | | TU. Tyne-Humber | 27 | 359 | 1 TBD 1 TBD 5 APV | |
| May | UT. Humber-Tyne | 30 | 609 | 1 TBD 5 APV | 2 | May | HZ. Holmengraa (Norway)-Methyl-Tyne-Humber | 7 | 241 | 1 ABS 2 TBD 9 APV | 3 |
| | TM. Tyne-Methyl | 30 | 248 | 1 TBD 5 APV | 1 (aground) | | MT. Methyl-Tyne | 30 | 108 | 1 TBD 3 APV | |
| | OZ. Methyl-Holmengraa (Norway) | 6 | 203 | 1 ABS 2 TBD 9 APV | | | TU. Tyne-Humber | 29 | 567 | 1 TBD 1 TBD 5 APV | |

| | | | | | | | | | | | |
|---|---|---------------|-------------------|---|---|---|---|---------------|-------------------|---|---|
| June | UT. Humber-Tyne TM. Tyne-Methyl OZ. Methyl-Holmen- graa (Norway) | 30 | 664 | 1 TBD 5 APV 1 TBD 5 APV 1 ABS 2 TBD 9 APV | 6 | June | HZ. Holmengraa (Norway)-Methyl- Tyne-Humber MT. Methyl-Tyne TU. Tyne-Humber | 6 | 235 | 1 ABS 2 TBD 9 APV 1 TBD 3 APV 1 TBD 5 APV | 9 |
| July (New system raid- July) | UT. Humber-Tyne TM. Tyne-Methyl OZ. Methyl-Holmen- graa (Norway) | 18 20 6 | 567 250 184 | 1 TBD 5 APV 4 TBD 6 APV 1 ABS 2 TBD 9 APV | 3 | July (New mid- July) | HZ. Holmengraa (Norway)-Methyl- Tyne-Humber MT. Methyl-Tyne TU. Tyne-Humber | 6 19 19 | 211 95 500 | 1 ABS 2 TBD 9 APV 4 TBD 6 APV 4 TBD 8 APV | 4 |
| Aug. | UT. Humber-Tyne TM. Tyne-Methyl OZ. Methyl-Holmen- graa (Norway) | 15 15 6 | 666 236 226 | 1 TBD 5 APV 4 TBD 6 APV 1 ABS 2 TBD 9 APV | 1 | Aug. | HZ. Holmengraa (Norway)-Methyl- Tyne-Humber MT. Methyl-Tyne TU. Tyne-Humber | 6 16 15 | 213 119 587 | 1 ABS 2 TBD 9 APV 4 TBD 6 APV 4 TBD 8 APV | 1 |
| Sept. | UT. Humber-Tyne TM. Tyne-Methyl OZ. Methyl-Holmen- graa (Norway) | 15 15 6 | 653 246 184 | 1 TBD 5 APV 4 TBD 6 APV 1 ABS 2 TBD 9 APV | 1 | Sept. | HZ. Holmengraa (Norway)-Methyl- Tyne-Humber MT. Methyl-Tyne TU. Tyne-Humber | 6 15 15 | 202 97 604 | 1 ABS 2 TBD 9 APV 4 TBD 6 APV 4 TBD 6 APV | • |
| Oct. | UT. Humber-Tyne TM. Tyne-Methyl OZ. Methyl-Holmen- graa (Norway) | 16 16 6 | 737 242 204 | 1 TBD 5 APV 4 TBD 6 APV 1 ABS 2 TBD 9 APV | 1 | Oct. | HZ. Holmengraa (Norway)-Methyl- Tyne-Humber MT. Methyl-Tyne TU. Tyne-Humber | 5 14 16 | 174 107 744 | 1 ABS 2 TBD 9 APV 4 TBD 6 APV 3 TBD 6 APV | |
| Nov. Last convoys sailed UT. 12th TM. 25th OZ. 23rd | UT. Humber-Tyne TM. Tyne-Methyl OZ. Methyl-Holmen- graa (Norway) | 12 24 5 | 282 158 122 | 2 TBD 5 APV 2 TBD 3 APV 1 ABS 2 TBD 9 APV | | Nov. Last convoys sailed HZ. 21st MT. 26th TU. 13th | HZ. Holmengraa (Norway)-Methyl- Tyne-Humber MT. Methyl-Tyne TU. Tyne-Humber | 6 21 11 | 18 94 243 | 1 ABS 2 TBD 9 APV 2 TBD 3 APV 1 TBD 5 APV | |



| ROUTE D. | | | | | | | Coal carried. |
|---|---------------|---------------------|----------------|---|---------------------|----------------------|----------------|
| SOUTHEND-BOULOGNE and CALAIS. Controlled by V.A. Dover Patrol. | | | | | | | All routes. |
| Average strength of convoy. | Sailings | Escort each convoy. | Average daily. | Total sailings during month, inclusive both ways. | Escort each convoy. | Losses. | Total tonnage. |
| | During month. | | | | | Inclusive both ways. | |
| 3 ships | | | | | | | 1,415,942 |
| 3 " | | | | | | | 1,355,729 |
| 3 " | | | | | | | 1,511,864 |
| 6 " | | | | | | | 1,856,673 |
| 5 " | | | | | | | 1,546,977 |
| 8 " | | | | | | | 1,369,770 |
| 7 " | | | | | | | 1,877,566 |
| 5 " | | | | 329 | | nil | 1,232,943 |
| 7 " | | | | 361 | | " | 1,401,784 |
| 5 " | | | | 286 | | " | 1,460,086 |
| Exact statistics not available. | | | | | | | |
| 3 ships | | | | 374 | | nil | 1,106,310 |
| 5 " | | | | 386 | | " | 1,378,704 |
| 5 " | | | | 398 | | " | 1,753,616 |
| 6 " | | | | 406 | | " | 1,491,929 |
| 6 " | | | | 575 | | " | 1,656,156 |
| 9 " | | | | 608 | | " | 2,100,146 |
| 6 " | | | | 711 | | " | 1,620,336 |
| 9 " | | | | 736 | | " | 2,135,285 |
| 6 " | | | | 543 | | " | 1,441,189 |
| 6 " | | | | 632 | | " | 1,770,863 |
| 6 " | | | | 413 | | " | 1,051,629 |

[Between pp. 408, 409.]

FRENCH COAL TRADE- UNDER BRITISH ESCORT

(a) MARCH- DECEMBER 1917

| Date. | ROUTE A. | | | | | | | ROUTE B. | | | | | | | ROUTE C. | | | | | | | ROUTE D. | | | | | | | Coal carried. | |
|-----------|--|---------------------|--------------------------------|-----------------------------|---------------------|--------------------------------|----------------------|---|---------------------|--------------------------------|-----------------------------|---------------------|--------------------------------|----------------------|---|---------------------|--------------------------------|-----------------------------|---------------------|--------------------------------|----------------------|---|---------------------|---------------------|----------------|---|---------------------|------------------------------|----------------|-----------|
| | PENZANCE-BREST. Controlled by { Commodore i/c. Brest. { S.N.O. Falmouth. | | | | | | | PORTLAND-CHERBOURG. Controlled by { R. A. Portland. { Prefet-Maritime, Cherbourg. | | | | | | | WEYMOUTH or ST. HELENS-HAVRE. Controlled by { C-in-C. Portsmouth. { S.N.O. Havre. | | | | | | | SOUTHEND-BOULOGNE and CALAIS. Controlled by V.A. Dover Patrol. | | | | | | | All routes. | |
| | Sailings from Mounts Bay. | | | Sailings from Brest. | | | Losses. | Sailings from Portland. | | | Sailings from Cherbourg. | | | Lo ss. | Sailings from Weymouth. | | | Sailings from Havre. | | | Losses. | Average daily. | Total during month. | Escort each convoy. | Average daily. | Total sailings during month, inclusive both ways. | Escort each convoy. | Losses, inclusive both ways. | Total tonnage. | |
| | Average strength of convoy. | Total during month. | Escort each convoy (trawlers). | Average strength of convoy. | Total during month. | Escort each convoy (trawlers). | Inclusive both ways. | Average strength of convoy. | Total during month. | Escort each convoy (trawlers). | Average strength of convoy. | Total during month. | Escort each convoy (trawlers). | Inclusive both ways. | Average strength of convoy. | Total during month. | Escort each convoy (trawlers). | Average strength of convoy. | Total during month. | Escort each convoy (trawlers). | Inclusive both ways. | | | | | | | | | |
| 1917 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| March | 5 ships | 159 | 2 | 6 ships | 205 | 2 | nil | 3 ships | 77 | 2-3 | 2 ships | 44 | 2-3 | 1 | 12 ships | 399 | 2-4 | 10 ships | 316 | 2-4 | 3 | Exact statistics not available. | | | | | | | 1,415,942 | |
| April | 5 " | 133 | " | 9 " | 268 | " | 2 | 3 " | 84 | " | 2 " | 64 | " | | 15 " | 473 | " | 12 " | 361 | " | nil | | | | | | | | | 1,355,729 |
| May | 6 " | 201 | " | 9 " | 253 | " | 3 | 3 " | 88 | " | 4 " | 134 | " | | 13 " | 447 | " | 9 " | 293 | " | 1 | | | | | | | | | 1,511,864 |
| June | 7 " | 200 | " | 5 " | 160 | " | 2 | 6 " | 183 | " | 4 " | 138 | " | | 14 " | 461 | " | 7 " | 211 | " | 1 | | | | | | | | | 1,856,673 |
| July | 9 " | 290 | 2-3 | 9 " | 270 | " | 1 | 5 " | 184 | " | 6 " | 207 | " | | 17 " | 532 | " | 10 " | 358 | " | nil | | | | | | | | | 1,546,977 |
| August | 11 " | 316 | " | 10 " | 295 | " | 3 | 8 " | 247 | " | 5 " | 176 | " | | 14 " | 498 | " | 14 " | 469 | " | 1 | | | | | | | | | 1,369,770 |
| September | 9 " | 243 | " | 9 " | 257 | " | 2 | 7 " | 238 | " | 5 " | 149 | " | | 12 " | 410 | " | 14 " | 452 | " | 1 | | | | | | | | | 1,877,566 |
| October | 8 " | 217 | " | 6 " | 211 | " | 1 | 5 " | 170 | " | 3 " | 123 | " | 1 | 10 " | 353 | " | 11 " | 377 | " | nil | | | | | | | | | 1,232,943 |
| November | 10 " | 277 | " | 10 " | 314 | " | 4 | 7 " | 248 | " | 3 " | 111 | " | | 14 " | 494 | " | 14 " | 516 | " | " | | | | 329 | | nil | | | 1,401,784 |
| December | 7 " | 187 | " | 7 " | 214 | " | 1 | 5 " | 181 | " | 3 " | 111 | " | | 9 " | 306 | " | 10 " | 291 | " | 4 | | | | | | | | | 1,460,086 |

(b) JANUARY NOVEMBER 1918

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(Between 1st and 10th 1918)

APPENDIX C

SUBMARINE WARFARE IN THE MEDITERRANEAN.

- I. February 1917–November 1918.
- II. Otranto Barrage : April–August 1918.
- III. Otranto Barrage Force : May–September 1918.

APPENDICES

I

February 1917-September 1918

| | Submarine cruising days (approx.). | Total number of escorted sailings. | Number of Ships. | | Tons of shipping sunk and damaged. | Average number of enemy submarines based on | | Sub- marines sunk or lost to the enemy. | Remarks on submarines sunk or lost to the enemy. |
|-----------|---|---|------------------|---------------|---|---|-----------------------|--|---|
| | | | Sunk. | Dam- aged. | | Pola. | Constant- tinople. | | |
| 1917 | | | | | | | | | |
| February | 110 | — | 50 | — | 101,291 | 24 | 3 | None | |
| March | 140 | — | 36 | 3 | 82,798 | 26 | 3 | " | |
| April | 290 | — | 94 | 4 | 234,170 | 25 | 3 | " | |
| May | 260 | — | 81 | — | 146,747 | 26 | 3 | 1 | UC 24, sunk by French submarine in Eastern Mediterranean. |
| June | 290 | — | 94 | — | 133,770 | 27 | 3 | None | |
| July | 238 | — | 46 | — | 84,866 | 28 | 3 | " | |
| August | 249 | — | 63 | 7 | 128,939 | 27 | 3 | " | |
| September | 225 | Records not kept | 47 | 3 | 81,862 | 29 | 3 | " | |
| October | 295 | | 50 | 2 | 142,519 | 32 | 4 | " | |
| November | 270 | | 33 | 9 | 116,521 | 32 | 4 | " | |
| December | 285 | | 57 | 7 | 176,767 | 34 | 4 | 1 | UC 38 sunk by French destroyers in the Eastern Mediterranean. |

II

SUBMARINE WARFARE ON THE OTRANTO BARRAGE

April-August 1918

| | No. of passages through the Straits by enemy submarines (approx.). | No. of times when enemy submarines were detected by barrage forces. | No. of times when enemy submarines were attacked by barrage forces. | Enemy submarines sunk by | |
|--------|--|---|---|--------------------------|----------------|
| | | | | Mobile barrage forces. | Fixed barrage. |
| April | 30 | 25 | 5 | None | None |
| May | 24 | 33 | 9 | 1 | " |
| June | 23 | 36 | 12 | None | " |
| July | 22 | 43 | 17 | " | " |
| August | 22 | 61 | 15 | " | 1 |

The number of passages through the Straits by enemy submarines during the two months previous to the institution of the mobile barrage was : during February 20 passages, during March 26 passages.

III

OTRANTO BARRAGE FORCE

| | May 15, 1918. | June 15, 1918. | July 15, 1918. | Sept. 15, 1918. |
|---------------------------------|---------------|----------------|-------------------|-------------------|
| Destroyers (British and French) | 27 | 31 | 27 (no French) | 31 (no French) |
| Submarines (British and French) | 15 | 15 | 12 | 8 |
| Sloops (Kite Balloon) | 1 | 4 | 4 | 6 |
| Torpedo Boats | — | — | 3 | 4 |
| American Submarine Chasers | — | 30 | 36 | 36 |
| Hydrophone Trawlers | 18 | 18 | 38 | 38 |
| Trawlers | 18 | 20 | 14 | 14 |
| Drifters | 102 | 109 | 107 | 101 |
| Motor Launches | 40 | 40 | 40 | 41 |
| Yacht | 1 | 1 | 1 | 1 |

APPENDIX D

NAVAL ARMISTICE

- I. Germany.—Text of conditions as first drafted by the Allied Naval Council.
- II. do. —As finally approved by the Supreme War Council.
- III. (a) Turkey.—As prepared by the War Office and Admiralty, October 7, 1918.
- (b) do. —As sent to Admiral Calthorpe, October 22, 1918.
- (c) do. —As signed, October 30, 1918.

I

GERMANY

Text of the Naval Armistice Conditions first drafted by the Allied Naval Council

I.—German Submarines to the number of 160 (including all Submarine-Cruisers and Minelaying Submarines), with their complete armament and equipment, are to be surrendered to the Allied and the United States of America Governments, in ports which will be specified by them. All other Submarines are to be paid off and completely disarmed.

II.—All German Surface Warships (including Monitors and River Craft) are to return to German Naval Bases to be specified by the Allied and United States of America Governments, and, with the exception of Vessels which are to be surrendered, they are to remain there during the Armistice.

The following Ships and Vessels of the German Fleet, with their complete armament and equipment, are to be surrendered to the Allied and United States of America Governments, in ports which will be specified by them, namely :

BATTLESHIPS.

3rd Battle Squadron :

König.

Bayern.

Grosser Kurfürst.

Kronprinz Wilhelm.

Markgraf.

4th Battle Squadron :

Friedrich der Grosse.

König Albert.

Kaiserin.

Prinzregent Luitpold.

Kaiser.

APPENDICES

BATTLE CRUISERS.

Hindenburg.
Derfflinger.
Seydlitz.

Moltke.
Von der Tann.
Mackensen.

LIGHT CRUISERS.

Brummer } Minelaying
Bremse } Cruisers.
Köln.
Dresden.

Emden.
Frankfurt.
Nürnberg.
Wiesbaden.

DESTROYERS.

Fifty of the most modern Destroyers.

All other Battleships, Cruisers and Destroyers are to be paid off immediately, and are only to retain on board nucleus crews, the numbers of which will be fixed by the Allied and United States of America Governments.

All Vessels of the Auxiliary Fleet (Trawlers, Motor Vessels, etc.) are to be disarmed.

III.—The crews of the Ships and Vessels surrendered under Paragraphs I and II will be repatriated to Germany after surrender, if the surrender obligations have been faithfully carried out.

IV.—The Allied and United States of America Fleets and Ships and Vessels are to be given free access to and from the Baltic, and to secure this the Allied and United States of America Governments shall be empowered to occupy all German forts, fortifications, batteries, torpedo batteries and other defences of all kinds at all the entrances from the Cattegat into the Baltic, and further for that purpose the Associated Governments shall be empowered to sweep up all mines and obstructions of all kinds laid by Germany between the Danish and German coasts on the one side and the Norwegian and Swedish coasts on the other side, and also any mines or obstructions laid within the Baltic outside German territorial waters, and the positions of all such mines and obstructions are to be notified to the Associated Governments by Germany, and appropriate plans of the positions are to be furnished.

V.—The existing Blockade conditions set up by the Associated Governments are to remain unchanged, and all German merchant ships found at sea are to remain liable to capture.

VI.—Otherwise than is provided in Paragraph IV, the position of all minefields or obstructions of any kind laid by

Germany are to be indicated, with the exception of those laid in German territorial waters, and the Associated Governments shall have the right, at their own convenience, to sweep up any German mines or obstructions outside German territorial waters during the continuance of the Armistice.

Germany shall also agree to waive all questions of neutrality in connection with any minesweeping or other warlike operations in the Baltic or elsewhere which the Associated Governments may arrange with Neutral Governments to carry out themselves or jointly with such Neutrals in Neutral territorial waters, and Germany shall so inform all Neutral Governments.

VII.—All German Aircraft are to be concentrated in German Bases to be specified by the Allied and United States of America Governments, and are there to remain immobilised and stationary during the Armistice.

VIII.—All Black Sea ports are to be evacuated by Germany, and all merchant ships belonging to the Associated Governments in these ports seized or taken over by Germany are to be handed back to the Associated Governments at such ports as may be designated by them, and all neutral merchant ships seized are to be released. All warlike and other materials of all kinds seized in these ports, together with all German materials as specified in Paragraph IX in connection with Belgium, are to be handed over to the Allied and United States of America Governments.

IX.—Germany shall, in evacuating the whole of the Belgian coasts, leave behind all merchant ships, tugs, lighters, cranes and all other harbour materials, all materials for inland navigation, all aircraft and air materials and stores, all arms and armaments, and all stores and apparatus of all kinds, all of which are to be abandoned by her.

X.—All merchant ships in German control belonging to the Associated Governments are to be restored in ports to be specified by them, without reciprocity on the part of the Associated Governments.

XI.—No destruction of the ships and materials specified in the preceding paragraphs is to be permitted before evacuation, surrender, or restoration.

XII.—All the above measures shall be executed by Germany in the shortest possible time, within the periods for each item which will be laid down before the Armistice is signed.

XIII.—German Naval prisoners shall be dealt with on similar lines to those laid down for Military prisoners, but in no case will prisoners who have formed part of the crews of German Submarines be released.

NOTE.—All vessels and property belonging to the enemy which under the terms of Armistice are to be surrendered or handed over are to be held in trust for final disposal at a Conference of the Allied and United States of America Representatives on the conclusion of the Armistice

II

Text of Naval Armistice Conditions finally approved by the Supreme War Council¹

XX.—Immediate cessation of all hostilities at sea and definite information to be given as to the location and movements of all German ships.

Notification to be given to neutrals that freedom of navigation in all territorial waters is given to the naval and mercantile marines of the Allied and Associated Powers, all questions of neutrality being waived.

XXI.—All naval and mercantile marine prisoners of war of the Allied and Associated Powers in German hands to be returned, without reciprocity.

XXII.—Surrender to the Allies and the United States of America of 160 German Submarines (including all Submarine Cruisers and Minelaying Submarines), with their complete armament and equipment, in ports which will be specified by the Allies and the United States of America. All other Submarines to be paid off and completely disarmed and placed under the supervision of the Allies and the United States of America.

XXIII.—The following German Surface Warships, which shall be designated by the Allies and the United States of America, shall forthwith be disarmed and thereafter interned in neutral ports or, failing them, Allied ports, to be designated by the Allies and the United States of America, and placed under the surveillance of the Allies and the United States of America, only caretakers being left on board, namely :

- 6 Battle Cruisers.
- 10 Battleships.
- 8 Light Cruisers, including 2 Minelayers.
- 50 Destroyers of the most modern types.

All other Surface Warships (including River Craft) are to be concentrated in German Naval Bases to be designated by

¹ Clauses I-XIX relate to the military conditions. For the text of the armistice conditions as signed, see Cd. 9212 (1918). The only substantial difference between the two texts is that the Germans were finally ordered to surrender "all existing submarines (including all submarine cruisers and minelayers)," instead of the 160 submarines originally specified.

the Allies and the United States of America, and are to be paid off and completely disarmed and placed under the supervision of the Allies and the United States of America. All vessels of the Auxiliary Fleet (Trawlers, Motor Vessels, etc.) are to be disarmed.

XXIV.—The Allies and the United States of America shall have the right to sweep up all minefields and obstructions laid by Germany outside German territorial waters, and the positions of these are to be indicated.

XXV.—Freedom of access to and from the Baltic to be given to the naval and mercantile marines of the Allied and Associated Powers. To secure this, the Allies and the United States of America shall be empowered to occupy all German forts, fortifications, batteries, and defence works of all kinds in all the entrances from the Cattegat into the Baltic, and to sweep up all mines and obstructions within and without German territorial waters without any questions of neutrality being raised, and the positions of all such mines and obstructions are to be indicated.

XXVI.—The existing Blockade conditions set up by the Allied and Associated Powers are to remain unchanged, and all German merchant ships found at sea are to remain liable to capture.

XXVII.—All Naval Aircraft are to be concentrated and immobilised in German Bases to be specified by the Allies and the United States of America.

XXVIII.—In evacuating the Belgian coasts and ports Germany shall abandon all merchant ships, tugs, lighters, cranes, and all other harbour materials, all materials for inland navigation, all aircraft and air materials and stores, all arms and armaments, and all stores and apparatus of all kinds.

XXIX.—All Black Sea ports are to be evacuated by Germany; all Russian warships of all descriptions seized by Germany in the Black Sea are to be handed over to the Allies and the United States of America; all neutral merchant ships seized are to be released; all warlike and other materials of all kinds seized in those ports are to be returned, and German materials, as specified in Clause XXVIII, are to be abandoned.

XXX.—All merchant ships in German hands belonging to the Allied and Associated Powers are to be restored in ports to be specified by the Allies and the United States of America, without reciprocity.

XXXI.—No destruction of ships or of materials to be permitted before evacuation, surrender, or restoration.

XXXII.—The German Government shall formally notify the Neutral Governments of the world, and particularly the

Governments of Norway, Sweden, Denmark, and Holland, that all restrictions placed on the trading of their vessels with the Allied and Associated countries, whether by the German Government or by private German interests, and whether in return for specific concessions, such as the export of shipbuilding materials or not, are immediately cancelled.

XXXIII.—No transfers of German merchant shipping of any description to any Neutral flag are to take place after signature of the Armistice.

XXXIV.—The duration of the Armistice is to be thirty days, with option to extend. During this period, on failure of execution of any of the above clauses, the Armistice may be denounced by one of the contracting parties on forty-eight hours' previous notice.

XXXV.—This Armistice to be accepted or refused by Germany within seventy-two hours of notification.

III

TURKEY

(a) *As prepared by the War Office and Admiralty,
October 7, 1918.*

1. Free passage for all Allied ships through the Dardanelles, Marmora, and Bosphorus and access to the Black Sea. Denial of these passages to the enemy. British occupation of Constantinople, of Dardanelles forts and defences on both sides of the Straits, and of Bosphorus forts and defences on both European and British shores.

2. Free use by Allied ships of all ports and anchorages now in Turkish occupation, and denial of their use to the enemy.

3. Surrender of all war vessels in Turkish waters. These ships to be interned at such port or ports as may be directed.

4. All Turkish mercantile shipping to be administered by the Allies and to be available for hire as required.

5. Wireless telegraph and cable stations to be administered by the Allies.

6. Positions of all minefields, torpedo tubes and other obstructions in Turkish waters to be indicated, and assistance given to sweep or remove them as may be required.

7. All available information as to mines in the Black Sea to be communicated.

8. Use of Constantinople as a Naval Base for the Allies, and use of all ship repair facilities at all Turkish ports and arsenals.

9. Facilities to be given for the purchase of coal, oil fuel and naval material from Turkish sources.

10. British Control Officers to be placed on all railways, including such portions of the Trans-Caucasian railways as are now under Turkish control, which must be placed at the free and complete disposal of the British authorities.

11. British occupation of the Taurus and Amanus tunnel systems.

12. Immediate withdrawal of Turkish troops from north-west Persia and Trans-Caucasia to behind the pre-war frontier.

13. Surrender of all garrisons in the Hejaz, Assir, Yemen and Aden protectorate, and Baku, to the nearest British commander or Arab representative. These garrisons will not be retained as prisoners of war, but will be evacuated to their homes as soon as this can be conveniently arranged.

14. The surrender of all Turkish officers in Tripolitania to the nearest Italian garrison, such officers not to be treated as prisoners of war, but sent back to the main Turkish forces as soon as conveniently possible.

15. Surrender of all Germans and Austrians to the nearest British or Allied commander.

16. Compliance with such orders as may be conveyed for the disposal and disposition of the Turkish Army and its equipment, including transport.

17. Appointment of British officers to control army supplies and resources, including ordnance factories, munition works and railway repair shops.

18. The control of the following mines to be placed in British hands :

The coal and lignite mines at Zunguldak, Heraclea, Sonia and Sarkia area, Keshan, Derkos and Pergama.

The copper mines at Arghana.

The chromite mines at Daghardi (Kutahia).

The nickel mines at Akkaja, Ag Gaya (Kastamouni).

The saltpetre mines at Konia.

19. All Allied prisoners of war, and such Allied civilians (interned or otherwise) as express a wish to be so dealt with to be collected without delay in Constantinople and handed over unconditionally to the Allies.

(b) *As sent to Admiral Calthorpe on October 22, 1918.*

1. Opening of Dardanelles and Bosporus and secure access to the Black Sea. Allied occupation of Dardanelles and Bosporus forts.

2. Positions of all minefields, torpedo tubes and other

obstructions in Turkish waters to be indicated, and assistance given to sweep or remove them as may be required.

3. All available information as to mines in the Black Sea to be communicated.

4. All Allied prisoners of war and Armenian interned persons and prisoners to be collected in Constantinople and handed over unconditionally to the Allies.

5. Immediate demobilisation of the Turkish Army except for such troops as are required for the surveillance of the frontiers and for the maintenance of internal order (effectives to be determined later by the Allies).

6. Surrender of all war vessels in Turkish waters, or in waters occupied by the Turks. These ships to be interned at such port or ports as may be directed.

7. Occupation by Allied troops of important strategical points.

8. Free use by Allied ships of all ports and anchorages now in Turkish occupation, and denial of their use to the enemy.

9. Use of Constantinople as a Naval Base for the Allies and use of all ship repair facilities at all Turkish ports and arsenals.

10. Allied occupation of the Taurus tunnel system.

11. Immediate withdrawal of Turkish troops from north-west Persia and Trans-Caucasia to behind the pre-war frontier.

12. Wireless telegraph and cable stations to be administered by the Allies.

13. Prohibition to destroy any naval, military, or commercial material.

14. Facilities to be given for the purchase of coal, oil-fuel and naval material from Turkish sources.

15. Allied Control Officers to be placed on all railways, including such portions of the Trans-Caucasian railways now under Turkish control, which must be placed at the free and complete disposal of the Allied authorities. This clause to include Allied occupation of Baku and Batoum.

16. The surrender of all garrisons in the Hejaz, Assir, Yemen, Syria, Cilicia, and Mesopotamia to the nearest Allied commander or Arab representative.

17. The surrender of all Turkish officers in Tripolitania and Cyrenaica to the nearest Italian garrison.

18. The surrender of all ports occupied in Tripolitania and Cyrenaica, including Misurata, to the nearest Allied garrison.

19. Surrender of all Germans and Austrians, naval, military, and civilian, to the nearest British or Allied commander.

20. Compliance with such orders as may be conveyed for the disposal and disposition of the Turkish Army and its equipment, arms, and ammunition, including transport.

21. Appointment of Allied officers to control army supplies.

22. Turkish prisoners to be kept at the disposal of the Allied Powers.

23. Obligation on the part of Turkey to cease all relations with the Central Powers.

24. It should be made clear—

- (a) That in case of disorder in the six Armenian vilayets, the Allies reserve to themselves the right to occupy any part of them;
- (b) That in connection with Clauses (7), (15), and (10), the towns of Sis, Hajin, Zeitun, and Aintab should be occupied.

It is necessary for you to bear these conditions in mind, and as far as possible to obtain them if only to enable us to satisfy the French and Italians that we have done our best to proceed on the lines mutually agreed. But in our opinion the first four conditions are of such paramount importance, and if completely carried out will so inevitably make us master of the situation that we do not wish you to jeopardise obtaining them, and obtaining them quickly, by insisting unduly on all or any of the rest, or indeed by raising any particular one of the remaining twenty if you think it might endanger your success in getting the vital four at once.

(c) *As signed on October 30, 1918.*

1. Opening of Dardanelles and Bosphorus and secure access to the Black Sea. Allied occupation of Dardanelles and Bosphorus forts.

2. Positions of all minefields, torpedo tubes and other obstructions in Turkish waters to be indicated, and assistance given to sweep or remove them as may be required.

3. All available information as to mines in the Black Sea to be communicated.

4. All Allied prisoners of war and Armenian interned persons and prisoners to be collected in Constantinople and handed over unconditionally to the Allies.

5. Immediate demobilisation of the Turkish Army except for such troops as are required for surveillance of frontiers and for the maintenance of internal order (number of effectives and their disposition to be determined later by the Allies after consultation with the Turkish Government).

6. Surrender of all war vessels in Turkish waters or in waters occupied by Turkey; these ships to be interned at such Turkish port or ports as may be directed, except such small vessels as are required for police or similar purposes in Turkish territorial waters.

7. The Allies to have the right to occupy any strategic points in the event of a situation arising which threatens the security of the Allies.

8. Free use by the Allied ships of all ports and anchorages now in Turkish occupation, and denial of their use to the enemy. Similar conditions to apply to Turkish mercantile shipping in Turkish waters for purposes of trade and the demobilisation of the army.

9. Use of all ship repair facilities at all Turkish ports and arsenals.

10. Allied occupation of the Taurus tunnel system.

11. Immediate withdrawal of Turkish troops from north-west Persia to behind the pre-war frontier has already been ordered and will be carried out.

Part of Trans-Caucasia has already been ordered to be evacuated by Turkish troops, the remainder to be evacuated if required by the Allies after they have studied the situation there.

12. Wireless telegraph and cable stations to be controlled by the Allies, Turkish Government messages excepted.

13. Prohibition to destroy any naval, military, or commercial material.

14. Facilities to be given for the purchase of coal and oil-fuel and naval material from Turkish sources after the requirements of the country have been met.

None of the above material to be exported.

15. Allied Control Officers to be placed on all railways, including such portions of Trans-Caucasian railways now under Turkish control, which must be placed at the free and complete disposal of the Allied authorities, due consideration being given to the needs of the population.

This clause to include Allied occupation of Batoum. Turkey will raise no objection to the occupation of Baku by the Allies.

16. Surrender of all garrisons in Hejaz, Assir, Yemen, Syria, and Mesopotamia to the nearest Allied commander; and the withdrawal of troops from Cilicia, except those necessary to maintain order, as will be determined under Clause 5.

17. Surrender of all Turkish officers in Tripolitania and Cyrenaica to the nearest Italian garrison. Turkey guarantees

to stop supplies and communications with these officers if they do not obey the order to surrender.

18. Surrender of all ports occupied in Tripolitania and Cyrenaica, including Misurata, to the nearest Allied garrison.

19. All Germans and Austrians, naval, military, and civilian, to be evacuated within one month from Turkish dominions: those in remote districts as soon after as may be possible.

20. Compliance with such orders as may be conveyed for the disposal of the equipment, arms and ammunition, including transport, of that portion of the Turkish Army which is demobilised under Clause 5.

21. An allied representative to be attached to the Turkish Ministry of Supplies in order to safeguard Allied interests. This representative to be furnished with all information necessary for this purpose.

22. Turkish prisoners to be kept at the disposal of the Allied Powers. The release of Turkish civilian prisoners and prisoners over military age to be considered.

23. Obligation on the part of Turkey to cease all relations with the Central Powers.

24. In case of disorder in the six Armenian vilayets, the Allies reserve to themselves the right to occupy any part of them.

25. Hostilities between the Allies and Turkey shall cease from noon, local time, on Thursday, October 31, 1918.

APPENDIX E

SUBMARINE WARFARE IN HOME WATERS (including Atlantic, Arctic Sea and Bay of Biscay)

February 1917 to October 1918

| 1917. Submarines at sea. | Sub- marine crusings (days— approx- imate). | Average length of cruise (days). | Total number of sail- ings in ocean convoys. | Number of merchant ships—all nationalities —sunk by submarines. | Gross tons of shipping sunk. | Average number of enemy sub- marines based on Flan- ders. Ger- many. | Number of German sub- ma- rines sunk or lost. | Remarks on submarines sunk. |
|--------------------------------|--|---|---|--|---------------------------------------|--|--|---|
| <i>February.</i> | | | | | | | | <i>February.</i> |
| <i>U-boats</i> 21 | 560 | <i>U-boats</i> 27 | | British 103 | 222,191 | 38 | 4 | 8 <i>UC</i> 39. North Sea. Sunk by H.M.S. <i>Thrasher</i> . |
| <i>UB</i> " 8 | | <i>UB</i> " 10 | | Foreign 109 | 151,240 | | | 8 <i>UC</i> 46. North Sea, S. Sunk by H.M.S. <i>Liberty</i> . |
| <i>UC</i> " 17 | | <i>UC</i> " 13 | | Total 212 | 373,431 | | | 17 <i>U</i> 83. Off S.W. Coast of Ireland. Sunk by H.M.S. <i>Q</i> 5. |
| Total 46 | | | | | | | | 23 <i>UC</i> 32. North Sea, N. Sunk by her own mines. |
| <i>March.</i> | | | | | | | | <i>March.</i> |
| <i>U-boats</i> 23 | 697 | <i>U-boats</i> 21 | | British 137 | 249,042 | 35 | 4 | 10 <i>UC</i> 43. North Sea, N. Sunk by H.M. S/M. <i>G</i> 13. |
| <i>UB</i> " 11 | | <i>UB</i> " 10 | | Foreign 160 | 207,633 | | | 12 <i>UC</i> 18. North Sea. Sunk by H.M.S. <i>Medea</i> (?). |
| <i>UC</i> " 23 | | <i>UC</i> " 11 | | Total 297 | 456,675 | | | 12 <i>U</i> 85. Channel, W. Sunk by H.M.S. <i>Q</i> 19. |
| Total 57 | | | | | | | | 13 <i>UB</i> 6. Dutch coast (interned). |
| <i>April.</i> | | | | | | | | <i>April.</i> |
| <i>U-boats</i> 31 | 914 | <i>U-boats</i> 21 | | British 165 | 394,700 | 35 | 2 | 5 <i>UC</i> 63. North Sea, S. Sunk by H.M. S/M. <i>C</i> 7. |
| <i>UB</i> " 16 | | <i>UB</i> " 11 | | Foreign 170 | 226,945 | | | 19 <i>UC</i> 30. North Sea. Sunk by mine. |
| <i>UC</i> " 28 | | <i>UC</i> " 12 | | Total 335 | 621,645 | | | |
| Total 75 | | | | | | | | |
| <i>May.</i> | | | | | | | | <i>May.</i> |
| <i>U-boats</i> 35 | 855 | <i>U-boats</i> 27 | 23 | British 98 | 222,188 | 33 | 5 | 1 <i>U</i> 81. Atlantic. Sunk by H.M. S/M. <i>E</i> 54. |
| <i>UB</i> " 11 | | <i>UB</i> " 12 | | Foreign 132 | 184,715 | | | 9 <i>UC</i> 26. North Sea, S. Sunk by H.M.S. <i>Mine</i> . |
| <i>UC</i> " 27 | | <i>UC</i> " 12 | | Total 230 | 406,903 | | | 14 <i>U</i> 89. North Sea, S. Sunk by mine. |
| Total 73 | | | | | | | | 17 <i>UC</i> 39. Channel. Sunk by H.M.S. <i>Glen</i> . |
| | | | | | | | | 20 <i>UC</i> 36. North Sea. Sunk by Scaplane No. 8663. |

APPENDIX E

| June. | 937 | U-boats 25 UB " 14 UC " 17 | 60 | British 117 Foreign 113 Total 230 | 314,915 180,165 495,080 | 37 | 57 | 4 | June. |
|--|-----|--|-------|---|-------------------------------|----|----|----|---|
| U-boats 30 UB " 8 UC " 23 Total 61 | | | | | | | | | 7 UC 29, Off S.W. coast of Ireland. Sunk by H.M.S. <i>Parus</i> . 12 UC 66, Channel. Sunk by H.M. Trawler <i>Sea King</i> . 20 U 99, Off W. coast of Ireland. Rammed by s.s. <i>Valeria</i> . ? UB 36, English Channel. Unknown. |
| July. | 714 | U-boats 29 UB " 14 UC " 17 | 266 | British 95 Foreign 106 Total 201 | 273,407 148,265 421,672 | 35 | 58 | 6 | July. |
| U-boats 37 UB " 8 UC " 20 Total 65 | | | | | | | | | 12 U 69, North Sea, N. Sunk by H.M.S. <i>Patrol</i> . 24 UC 1, North Sea, S. Sunk by Seaplane No. 8689. 26 UC 61, Dover area; off Cape Grisnez. Wrecked. 28 UB 23, Channel W. Interned Corunna. 29 UB 27, North Sea, S. Rammed by s.s. <i>Halegon</i> . UB 29, North Sea, S. Sunk by Seaplanes Nos. 8676, 8662. |
| August. | 706 | U-boats 25 UB " 13 UC " 16 Total 54 | 666 | British 78 Foreign 70 Total 148 | 273,602 142,666 416,268 | 37 | 64 | 4 | August. |
| U-boats 32 UB " 6 UC " 16 Total 54 | | | | | | | | | 4 UC 44, Ireland, S. coast. Sunk on her own mines. 12 U 44, North Sea, N. Rammed by H.M.S. <i>Oracle</i> . UB 32, English Channel. Sunk by Seaplane No. 9860. 21 UC 41, North Sea (mouth of the Tay). Sunk by H.M. Trawler <i>Jacynth</i> . |
| September. | 804 | U-boats 30 UB " 14 UC " 18 Total 73 | 1,075 | British 71 Foreign 70 Total 141 | 158,451 132,098 290,549 | 35 | 63 | 10 | September. |
| U-boats 43 UB " 10 UC " 20 Total 73 | | | | | | | | | 2 U 23, Arctic Sea. Sunk in explosion of s.s. <i>Olive Branch</i> . 11 U 49, Atlantic. Sunk by s.s. <i>British Transport</i> . 12 U 46, Off N. coast of Ireland. Sunk by H.M. S.M. D 7. 17 U 88, Atlantic. Sunk by H.M.S. <i>Stoncrop</i> . 18 UC 42, Off S. coast of Ireland. Sunk by own mines. 22 UC 72, North Sea, S. Sunk by Seaplane No. 8695. 26 UC 33, Irish Channel. Rammed by H.M.S. <i>P 61</i> . 27 UC 21, Dover area. Sunk by mine nets. 28 UC 6, North Sea, S. Sunk by Seaplane No. 8676. 29 UC 55, North Sea, N. (off Lerwick). Sunk by H.M.S. <i>Syeta</i> and <i>Tirade</i> . |

APPENDICES

| 1917. Submarines at sea. | Sub- marine cruising days (approx- imate). | Average length of cruise (days). | Total number of sail- ings in ocean convoys. | Number of merchant ships and nationalities sunk by submarines. | Gross tons of shipping sunk. | | Average number of enemy sub- marines based on | | Number of German sub- ma- rines sunk or lost. | Remarks on submarines sunk. |
|--------------------------------|---|---|---|---|---------------------------------------|--|--|---------------|--|---|
| | | | | | | | Flan- ders. | Ger- many. | | |
| <i>October.</i> | | | | | | | | | | <i>October.</i> |
| <i>U-boats</i> 34 | 823 | <i>U-boats</i> 28 | 1,040 | British 62 | 180,559 | | 36 | 59 | 7 | <i>U 50.</i> North Sea. Operation HS. Sunk by |
| <i>UB "</i> 11 | | <i>UB "</i> 12 | | Foreign 56 | 117,171 | | | | | mine. North Sea. Operation HS. Sunk by |
| <i>UC "</i> 14 | | <i>UC "</i> 14 | | Total 118 | 297,730 | | | | | mine. |
| Total 59 | | | | | | | | | | <i>U 100.</i> North Sea. Operation HS. Sunk by |
| | | | | | | | | | | mine. |
| | | | | | | | | | | 3 <i>UC 14.</i> North Sea, S. Sunk by mine. |
| | | | | | | | | | | 5 <i>UB 41.</i> North Sea, S. Sunk by mine. |
| | | | | | | | | | | 19 <i>UC 62.</i> North Sea, S. Sunk by H.M.S. <i>S/M. E 45.</i> |
| | | | | | | | | | | 23 <i>UC 16.</i> Channel. Sunk by H.M.S. <i>Melampus.</i> |
| <i>November.</i> | | | | | | | | | | <i>November.</i> |
| <i>U-boats</i> 25 | 557 | <i>U-boats</i> 29 | 948 | British 50 | 155,954 | | 34 | 61 | 8 | 1 <i>UC 63.</i> Dover area. Sunk by H.M. <i>S/M. E 52.</i> |
| <i>UB "</i> 20 | | <i>UB "</i> 14 | | Foreign 58 | 89,894 | | | | | 3 <i>UC 65.</i> English Channel, E. Sunk by H.M. <i>S/M.</i> |
| <i>UC "</i> 9 | | <i>UC "</i> 16 | | Total 108 | 245,788 | | | | | <i>C 15.</i> |
| Total 54 | | | | | | | | | | 13 <i>UC 51.</i> North Sea, S. Sunk by H.M.S. <i>Firedrake.</i> |
| | | | | | | | | | | 17 <i>U 58.</i> Off S. coast of Ireland. Sunk by U.S.S. |
| | | | | | | | | | | <i>Fanning</i> and <i>Nicholson.</i> |
| | | | | | | | | | | 17 <i>UB 18.</i> English Channel, W. Sunk by mine. |
| | | | | | | | | | | 18 <i>UC 47.</i> North Sea. Rammed by H.M.S. <i>P 57.</i> |
| | | | | | | | | | | 24 <i>U 48.</i> Dover area. Sunk by H.M.S. <i>Gipsy</i> and |
| | | | | | | | | | | Dover Drifters. |
| | | | | | | | | | | 29 <i>UB 61.</i> North Sea, S. Sunk by H.M. Trawler (?). |
| <i>December.</i> | | | | | | | | | | <i>December.</i> |
| <i>U-boats</i> 38 | 798 | <i>U-boats</i> 24 | 1,007 | British 61 | 155,630 | | 30 | 65 | 6 | 2 <i>UB 81.</i> English Channel. Sunk by mine. |
| <i>UB "</i> 18 | | <i>UB "</i> 17 | | Foreign 46 | 76,011 | | | | | 2 <i>UC 69.</i> English Channel. Rammed by <i>U 96.</i> |
| <i>UC "</i> 6 | | <i>UC "</i> 17 | | Total 107 | 231,641 | | | | | 10 <i>UB 75.</i> North Sea, S. Sunk by mine nets. |
| Total 62 | | | | | | | | | | 13 <i>U 75.</i> North Sea. Sunk by mine. |
| | | | | | | | | | | 19 <i>UB 56.</i> Dover area. Sunk by mine. |
| | | | | | | | | | | 25 <i>U 87.</i> Irish Channel. Rammed by H.M.S. <i>P 56.</i> |

APPENDIX E

| 1918. | 647 | 945 | British Foreign Total | 119,100 64,666 183,766 | 30 | 62 | 7 | January. |
|---|----------------------------------|-------|---------------------------------------|------------------------------|----|----|---|---|
| U-boats 33 UB " 17 UC " 8 Total 58 | U-boats 27 UB " 16 UC " 15 | 945 | British 52 Foreign 44 Total 96 | 119,100 64,666 183,766 | 30 | 62 | 7 | 7 U 93. English Channel. Rammed by s.s. <i>Brauteit</i> . 19 UB 22. North Sea, S. Sunk by mine. 26 U 84. Irish Channel. Sunk by H.M.S. P 62. 26 UB 35. Dover area. Sunk by H.M.S. <i>Leven</i> . 26 U 109. Dover area. Sunk by H.M. Drifter <i>Beryl</i> . 28 UB 63. North Sea, N. Sunk by H.M. Trawler <i>W. S. Bailey</i> . ? U 95. Probably in English Channel. Unknown. |
| February. | 803 | 969 | British 67 Foreign 29 Total 96 | 185,555 57,597 243,152 | 29 | 62 | 4 | February. |
| U-boats 36 UB " 20 UC " 7 Total 63 | U-boats 26 UB " 17 UC " 16 | 969 | British 67 Foreign 29 Total 96 | 185,555 57,597 243,152 | 29 | 62 | 4 | 4 UC 50. English Channel. Sunk by H.M.S. <i>Zebuian</i> . 8 UB 38. Dover area. Rammed by H.M. Drifter <i>Gowan II</i> . 12 U 89. N. of Ireland. Rammed by H.M.S. <i>Rozburgh</i> . 25 UB 17. English Channel. Sunk by H.M.S. <i>Onslow</i> . |
| March. | 763 | 1,113 | British 72 Foreign 51 Total 123 | 135,412 91,585 226,997 | 26 | 62 | 5 | March. |
| U-boats 35 UB " 20 UC " 9 Total 64 | U-boats 28 UB " 17 UC " 16 | 1,113 | British 72 Foreign 51 Total 123 | 135,412 91,585 226,997 | 26 | 62 | 5 | 10 UB 58. Dover area. Sunk by mine. 11 UB 54. North Sea, S. Sunk by H.M.S. <i>Retriever</i> . 15 U 110. North of Ireland. Sunk by H.M.S. <i>Michael</i> . 23 UC 48. Interned at Ferrol. 28 U 61. Irish Channel. Sunk by H.M.S. P 51. |
| April. | 763 | 1,150 | British 57 Foreign 23 Total 80 | 155,291 34,221 189,512 | 25 | 63 | 6 | April. |
| U-boats 31 UB " 18 UC " 9 Total 58 | U-boats 27 UB " 20 UC " 17 | 1,150 | British 57 Foreign 23 Total 80 | 155,291 34,221 189,512 | 25 | 63 | 6 | 11 UB 33. Dover area. Sunk by mine nets. 17 UB 82. North of Ireland. Sunk by H.M. Drifters <i>Pilot Me</i> and <i>Young Fred</i> . 22 UB 55. Dover area. Sunk by mine. 25 U 104. Irish Channel. Sunk by H.M.S. <i>Jessamine</i> . 30 UB 85. Irish Channel. Sunk by H.M. Drifter <i>Coreopsis</i> . ? UC 79. North Sea. Sunk by mine. |

| 1918. Submarines at sea. | Sub- marine cruising days (approx- imate). | Average length of cruise (days). | Total number of sail- ings in ocean convoys. | Number of merchant ships—all nationalities —sunk by submarines. | Gross tons of shipping sunk. | Average number of enemy sub- marines based on | | Number of German sub- marines sunk or lost. | Remarks on submarines sunk. |
|--------------------------------|---|---|---|--|---------------------------------------|--|---------------|---|---|
| | | | | | | Flan- ders. | Ger- many. | | |
| <i>May.</i> | | | | | | | | | |
| <i>U</i> -boats 30 | 364 | <i>U</i> -boats 31 | 1,197 | British 56 | 119,849 | 23 | 65 | 11 | <i>May.</i> |
| <i>U</i> <i>B</i> " 22 | | <i>U</i> <i>B</i> " 20 | | Foreign 36 | 59,636 | | | | 2 <i>U</i> <i>B</i> 31. Dover area. Sunk by mine. |
| <i>U</i> <i>C</i> " 9 | | <i>U</i> <i>C</i> " 16 | | Total 92 | 179,475 | | | | 2 <i>U</i> <i>C</i> 78. Dover area. Sunk by mine. |
| Total 61 | | | | | | | | | 9 <i>U</i> <i>B</i> 78. English Channel. Rammed by H.M. Transport <i>Queen Alexandra</i> . |
| | | | | | | | | | 10 <i>U</i> <i>B</i> 16. North Sea, S. Sunk by H.M. S/M. <i>E 34</i> . |
| | | | | | | | | | 11 <i>U</i> 154. Atlantic. Sunk by H.M. S/M. <i>E 35</i> . |
| | | | | | | | | | 12 <i>U</i> 103. English Channel. Rammed by H.M.S. <i>Olympic</i> . |
| | | | | | | | | | 12 <i>U</i> <i>B</i> 72. English Channel. Sunk by H.M. S/M. <i>D 4</i> . |
| | | | | | | | | | 24 <i>U</i> <i>C</i> 56. Interned Santander. |
| | | | | | | | | | 26 <i>U</i> <i>B</i> 74. English Channel. Sunk by H.M. Yacht <i>Lorna</i> . |
| | | | | | | | | | 31 <i>U</i> <i>C</i> 75. North Sea. Rammed by H.M.S. <i>Fairy</i> . |
| | | | | | | | | | ? <i>U</i> <i>B</i> 119. North Sea. Unknown. |
| <i>June.</i> | | | | | | | | | <i>June.</i> |
| <i>U</i> -boats 28 | 626 | <i>U</i> -boats 30 | 1,205 | British 44 | 122,491 | 24 | 65 | 2 | 20 <i>U</i> <i>C</i> 64. Dover area. Sunk by mine. |
| <i>U</i> <i>B</i> " 17 | | <i>U</i> <i>B</i> " 19 | | Foreign 34 | 64,011 | | | | 26 <i>U</i> <i>C</i> 11. North Sea, S. Sunk by mine. |
| <i>U</i> <i>C</i> " 11 | | <i>U</i> <i>C</i> " 17 | | Total 78 | 186,502 | | | | |
| Total 56 | | | | | | | | | |
| <i>July.</i> | | | | | | | | | <i>July.</i> |
| <i>U</i> -boats 31 | 961 | <i>U</i> -boats 29 | 1,270 | British 41 | 133,355 | 22 | 70 | 6 | 10 <i>U</i> <i>C</i> 77. Dover area. Sunk by H.M. Drifters <i>Kessingland</i> and <i>Golden Gain</i> . |
| <i>U</i> <i>B</i> " 30 | | <i>U</i> <i>B</i> " 17 | | Foreign 40 | 64,734 | | | | 10 <i>U</i> <i>B</i> 65. Off S.W. coast of Ireland. Sunk by accidental explosion. |
| <i>U</i> <i>C</i> " 8 | | <i>U</i> <i>C</i> " 15 | | Total 81 | 198,089 | | | | 19 <i>U</i> <i>B</i> 110. North Sea. Sunk by H.M.S. <i>Garry</i> and M.L. 263. |
| Total 69 | | | | | | | | | 20 <i>U</i> <i>B</i> 124. Off N. coast of Ireland. Sunk by H.M.S. <i>Marne</i> , <i>Millbrook</i> , <i>Pigeon</i> . |
| | | | | | | | | | 27 <i>U</i> <i>B</i> 107. North Sea, S. Sunk by H.M. Trawler <i>Cubica</i> and H.M.S. <i>Vanessa</i> . |
| | | | | | | | | | ? <i>U</i> <i>B</i> 108. English Channel. Unknown. |

APPENDIX E

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| | | | | | | | | | | |
|-------------------|--|-----|----------------------------------|-------|---------------------------------------|-------------------------------|--------------------------|----|---|---|
| August. | | 926 | U-boats 28 UB " 18 UC " 16 | 1,277 | British 46 Foreign 81 Total 127 | 117,579 107,399 224,978 | 18 | 78 | 6 | <p>8 UC 49. English Channel. Sunk by H.M.S. <i>Oroonsum</i>.</p> <p>13 UB 30. North Sea. Sunk by H.M. Trawlers <i>John Gilman</i> and <i>Florida</i>.</p> <p>14 UB 57. Dover area. Sunk by mine.</p> <p>23 UC 70. North Sea. Sunk by Aeroplane BK. 9983 and H.M.S. <i>Ouse</i>.</p> <p>29 UB 109. Dover area. Sunk by mine.</p> <p>? UB 12. North Sea, S. Sunk by mine.</p> |
| September. | | 976 | U-boats 30 UB " 19 UC " 15 | 1,258 | British 39 Foreign 25 Total 64 | 114,697 40,226 154,923 | 13 | 77 | 9 | <p>9 U 92. North Sea, N. Sunk by mine in Northern Barrage.</p> <p>10 UB 83. North Sea, N. Sunk by H.M.S. <i>Ophidia</i>.</p> <p>16 UB 103. Dover area. Sunk by Alrship SS. Z 1 and H.M. Drifter <i>Young Crow</i>.</p> <p>19 UB 104. North Sea, N. Sunk by mine in Northern Barrage.</p> <p>25 U 156. North Sea, N. Sunk by mine in Northern Barrage.</p> <p>29 UB 115. North Sea, N. Sunk by H.M.S. <i>Ouse</i> and <i>Star</i>.</p> <p>? UB 113. Dover area. Sunk by mine.</p> <p>? UB 127. North Sea, N. Sunk by mine in Northern Barrage.</p> <p>? U 102. } Northern Barrage.</p> |
| October. | | 745 | U-boats 20 UB " 12 UC " 9 | 1,215 | British 18 Foreign 24 Total 42 | 43,028 37,871 80,899 | Base evacuated: 8 at sea | 77 | 8 | <p>October.</p> <p>1 UB 40. } Destroyed by the Germans on evacuation of the Flanders Bases.</p> <p>2 UB 10</p> <p>2 UB 59</p> <p>2 UC 4</p> <p>16 UB 90. North Sea, N. Sunk by H.M. S/M. L 12.</p> <p>19 UB 123. North Sea, N. Sunk by mine in Northern Barrage.</p> <p>28 U 78. North Sea, N. Sunk by H.M. S/M. G 2.</p> <p>28 UB 116. North Sea, N. Sunk by mine in Northern Barrage.</p> |

NOTE: Until all German information is available, it is impossible to vouch for the accuracy of this table.

APPENDIX F

EXPANSION OF THE FLEET

Strength of British Navy, 4th August 1914 and 11th November, 1918.
(Including Ships in the Naval Service of Dominion Governments.)

| Type of Vessel. | Strength, 4th August 1914. | | Strength, 11th November, 1918. | | |
|------------------------------------|----------------------------|-----------------------|--------------------------------|-----------------------|----------------|
| | No. | Displacement Tonnage. | No. | Displacement Tonnage. | Gross Tonnage. |
| <i>Warships :</i> | | | | | |
| Battleships : | | | | | |
| Dreadnoughts | 20* | 423,350 | 33 | 775,850 | |
| Pre-Dreadnoughts | 40 | 589,385 | 17† | 258,900 | |
| Total | 60 | 1,012,735 | 50 | 1,034,750 | |
| Battle Cruisers | 9 | 187,800 | 9 | 206,300 | |
| Cruisers | 46 | 510,650 | 27‡ | 304,950 | |
| Light Cruisers | 62 | 260,100 | 82§ | 344,330 | |
| Gunboats | 28 | 16,641 | 52 | 22,784 | |
| Coast Defence Vessels | — | — | 1 | 5,700 | |
| Monitors | — | — | 33 | 106,130 | |
| Sloops | 11 | 11,330 | 11 | 11,738 | |
| Fleet Sweeping Vessels (Sloops) | — | — | 106 | 132,800 | |
| Flotilla Leaders | 1 | 2,207 | 26 | 42,634 | |
| Torpedo Boat Destroyers | 215 | 142,546 | 407 | 363,695 | |
| Torpedo Boats | 106 | 17,906 | 94 | 15,831 | |
| Submarines | 76 | 30,983 | 137 | 131,658 | |
| Aircraft Carriers | 1 | 5,600 | 13 | 79,077 | 5,375 |
| P. and P.C. Boats | — | — | 62 | 38,932 | |
| Minelaying Vessels | 7 | 24,200 | 8 | 52,800 | 4,298 |
| Repair Ships | 2 | 20,900 | 7 | 38,458 | 1,219 |
| Depôt Ships | 22 | 86,845 | 49 | 312,728 | |
| Armed Merchant Cruisers | ¶ | — | 29 | — | 297,968 |
| Armed Boarding Steamers | — | — | 20 | — | 32,617 |
| Special Service Ships | — | — | 50 | — | 25,000 |
| Coastal Motor Boats | — | — | 66 | 545 | |
| Miscellaneous | 2 | 2,780 | 15 | 1,288 | 16,361 |
| Total Warships | 648 | 2,333,223 | 1,354 | 3,247,128 | 382,838 |
| <i>Auxiliary Patrol Service :</i> | | | | | |
| Yachts | — | — | 57 | — | 37,000 |
| Patrol Gunboats | — | — | 30 | 20,724 | |
| Whalers | — | — | 18 | 4,704 | |
| Trawlers | 12 | 5,667 | 1,520 | — | 350,000 |
| Drifters | — | — | 1,365 | — | 113,000 |
| Minesweepers—Paddle or Screw | — | — | 156 | 68,645 | 37,600 |
| Motor Launches | — | — | 507 | 18,252 | |
| Motor Drifters and Motor Boats | — | — | 74 | — | 5,300 |
| Total Auxiliary Patrol Service | 12 | 5,667 | 3,727 | 112,325 | 542,900 |
| Grand Total | 660 | 2,338,890 | 5,081 | 3,359,453 | 925,738 |

For foot-notes, see opposite.

APPENDIX G

LOSSES OF BRITISH AND ALLIED WARSHIPS AND AUXILIARIES FROM
ALL CAUSES UP TO 11TH NOVEMBER, 1918.

| Class. | Great Britain. | France. | Italy. | Russia. | United States. | Japan. | (a) Portugal (b) Greece (c) Roumania. | Total excluding Great Britain. |
|---|----------------|---------|--------|---------|----------------|------------|--|--------------------------------|
| | No. | No. | No. | No. | No. | No. | No. | No. |
| Battleships | 13 | 4 | 3 | 4 | — | 1 | — | 12 |
| Battle Cruisers | 3 | — | — | — | — | — | — | — |
| Cruisers | 13 | 5 | 2 | 1 | 3 | 1 | — | 12 |
| Light Cruisers | 12* | — | 1 | 1 | — | 3 | — | 5 |
| Gunboats and Torpedo Gunboats | 5 | 2 | 1 | 1 | 1 | — | — | 5 |
| River Gunboats | 2 | — | — | — | — | — | 1(a) | 1 |
| Coast Defence Ships | 1 | — | — | — | — | — | — | — |
| Monitors | 5 | — | 1 | — | — | — | — | 1 |
| Sloops | 18 | 1 | — | — | — | — | — | 1 |
| Flotilla Leaders | 3 | — | 1 | — | — | — | — | 1 |
| Torpedo Boat Destroyers | 64 | 11 | 8 | 22 | 2 | 2 | 1(b) | 46 |
| Torpedo Boats | 11 | 8 | 6 | — | — | 1 | 1(c) | 16 |
| Submarines | 54† | 12 | 8 | 14 | 1 | — | — | 35 |
| Aircraft Carriers | 3 | — | — | — | — | — | — | — |
| Patrol Boats | 2 | — | — | — | — | — | — | — |
| Minelayers | 2 | 2 | 1 | 3 | — | — | — | 6 |
| Armed Merchant Cruisers | 17 | 8 | 4 | 1 | — | — | — | 13 |
| Armed Boarding Steamers | 13 | — | — | — | — | — | — | — |
| Coastal Motor Boats | 13 | — | — | — | — | — | — | — |
| Total (Numbers) | 254 | 53 | 36 | 47 | 7 | 8 | 3 | 154 |
| Tons Displ. | 651,907 | 172,264 | 92,104 | 126,528 | 41,365 | 48,453 | 478 | 481,192 |
| Tons Gross | 208,948 | — | — | — | — | — | — | — |
| In addition to the above—Auxiliary Vessels, e.g.: | | | | | | | | |
| Hospital Ships | | | | | | | | |
| Minesweepers | | | | | | | | |
| Auxiliary Patrol Vessels | 815‡ | 81‡ | 36 | 3‡ | 7‡ | 3‡ | 2(a)‡ | 182‡ |
| Colliers, etc. | | | | | | | | |
| Total Displacement | 3,990 | 17,331 | 28,728 | 11,241 | 26,360 (est.) | 500 (est.) | 250 | 84,410 |
| Tons Gross | 1,125,743 | — | — | — | — | — | — | — |

* Including 6 Light Cruisers sunk as blockships at Zeebrugge and Ostend.

† Including 7 Submarines destroyed at Helsingfors to avoid capture, and 1 blown up at Zeebrugge Mole.

‡ These figures are not strictly comparable, as the figures given for the Allies may be incomplete.

* One newly commissioned 7th August, 1914, not included.

† Excluding 12 Pre-Dreadnought Battleships

‡ Excluding 10 Cruisers

§ Excluding 10 Light Cruisers

|| Approximate.

Note.—In addition to the above, the principal Auxiliary Vessels employed on Admiralty Service totalled 97 and 570 on the dates mentioned.

} converted from their original type to Depot Ships, etc.

¶ Several fitting out at this date.

APPENDIX H

LOSSES OF ENEMY WARSHIPS AND AUXILIARIES UP TO 11TH NOVEMBER, 1918.

| Class | Germany | Austria-Hungary | Turkey | Total |
|---|----------|-----------------|--------|----------|
| | No. | No. | No. | No. |
| Battleships | 1* | 3 | 1 | 5 |
| Battle Cruisers | 1 | — | — | 1 |
| Cruisers | 6 | — | — | 6 |
| Light Cruisers | 17 | 2 | 2 | 21 |
| Gunboats | 8 | — | 4 | 12 |
| Armoured Vessels | — | — | 1 | 1 |
| River Monitors | — | 3 | — | 3 |
| Torpedo Boat Destroyers | 68 | 4 | 3 | 75 |
| Torpedo Boats | 55 | 4 | 5 | 64 |
| Submarines | 200 | 7 | — | 207 |
| Minelayers | 1 | — | 2 | 3 |
| Miscellaneous | 5 | — | 10 | 15 |
| Total { Numbers | 362 | 23 | 28 | 413 |
| { Tons displacement | 362,371 | 58,416 | 30,640 | 451,427 |
| Commissioned Merchant Vessels (including Armed Merchant Cruisers, Trawlers, etc.), Minesweepers, etc. No. | 151† | ? | 1 | 152† |
| Tons { Displacement | 13,625 | — | 2,662 | 16,287 |
| { Gross | 200,000† | — | — | 200,000† |

* Also 1 battleship of 18,600 tons displacement, wrecked on active service, subsequently salvaged but found not to be worth repair.

† Approximate. As regards German commissioned merchant vessels, the known losses amount to 120 vessels of all types having a total tonnage of about 200,000 gross tons; but it is believed these figures do not represent more than 75 per cent. of the actual totals.

APPENDIX I

STATEMENT SHOWING NUMBERS BORNE IN H.M. FLEET ON
15TH JULY, 1914, 15TH AUGUST, 1914, AND 15TH NOVEMBER, 1918.

| | 15th July, 1914 | 15th August 1914 | 15th November 1918 |
|---|-----------------|---------------------|-----------------------|
| Royal Navy, Royal Marines, etc. (other than Retired, Pensioners, or Reserves) | 146,047 | 147,667 | 188,537 |
| Entered for hostilities only | — | — | 74,437 |
| Retired Officers and Pensioners | — | 6,970 | 12,346 |
| Royal Fleet Reserve | — | 27,395 | 19,180 |
| Royal Naval Reserve | — | 13,510 | 23,453 |
| Royal Naval Reserve (Trawler Section) | — | 3,130 | 37,145 |
| Royal Naval Volunteer Reserve | — | 2,345 | 50,218 |
| Colonial Reserves | — | — | 2,000 |
| Total | 146,047* | 201,017* | 407,316† |

* R.N.A.S. included.

† R.N. Division included, but M.M. Reserve excluded.

APPENDIX J

NUMBER OF OFFICERS AND MEN OF ALL RANKS THAT SERVED DURING
THE WAR.

The numbers include Officers and Men of the Royal Navy and Royal Marines, Retired Officers, Pensioners, Coast-Guard, Reserves, Royal Naval Air Service, and Royal Naval Division and Mercantile Marine Reserve.

Personnel of the Dominion Navies, etc., is not included.

| | Officers | Men | Total |
|--------------------------|----------|---------|---------|
| Borne on 15th July, 1914 | 9,986 | 136,061 | 146,047 |
| Reserves mobilised | 3,560 | 59,734 | 63,294 |
| Entered | 41,831 | 389,065 | 430,896 |
| Total | 55,377 | 584,860 | 640,237 |

In addition, 11,323 served in the Coast Watching Service, Women's Royal Naval Service, as Nursing Sisters and V.A.D.'s.

APPENDIX H

LOSSES OF ENEMY WARSHIPS AND AUXILIARIES UP TO 11TH NOVEMBER, 1918.

| Class | Germany | Austria-Hungary | Turkey | Total |
|---|----------|-----------------|--------|----------|
| | No. | No. | No. | No. |
| Battleships | 1* | 3 | 1 | 5 |
| Battle Cruisers | 1 | — | — | 1 |
| Cruisers | 6 | — | — | 6 |
| Light Cruisers | 17 | 2 | 2 | 21 |
| Gunboats | 8 | — | 4 | 12 |
| Armoured Vessels | — | — | 1 | 1 |
| River Monitors | — | 3 | — | 3 |
| Torpedo Boat Destroyers | 68 | 4 | 3 | 75 |
| Torpedo Boats | 55 | 4 | 5 | 64 |
| Submarines | 200 | 7 | — | 207 |
| Minelayers | 1 | — | 2 | 3 |
| Miscellaneous | 5 | — | 10 | 15 |
| Total { Numbers | 362 | 23 | 28 | 413 |
| { Tons displacement | 362,371 | 58,416 | 30,640 | 451,427 |
| Commissioned Merchant Vessels (including Armed Merchant Cruisers, Trawlers, etc.), Minesweepers, etc. No. | 151† | ? | 1 | 152† |
| Tons { Displacement | 13,625 | — | 2,662 | 16,287 |
| { Gross | 200,000† | — | — | 200,000† |

* Also 1 battleship of 18,600 tons displacement, wrecked on active service, subsequently salvaged but found not to be worth repair.

† Approximate. As regards German commissioned merchant vessels, the known losses amount to 120 vessels of all types having a total tonnage of about 200,000 gross tons; but it is believed these figures do not represent more than 75 per cent. of the actual totals.

APPENDIX I

STATEMENT SHOWING NUMBERS BORNE IN H.M. FLEET ON
15TH JULY, 1914, 15TH AUGUST, 1914, AND 15TH NOVEMBER, 1918.

| | 15th July, 1914 | 15th August 1914 | 15th November 1918 |
|--|-----------------|---------------------|-----------------------|
| Royal Navy, Royal Marines, etc. (other than Retired, Pensioners, or Reserves) | 146,047 | 147,667 | 188,537 |
| Entered for hostilities only | — | — | 74,437 |
| Retired Officers and Pensioners | — | 6,970 | 12,346 |
| Royal Fleet Reserve | — | 27,395 | 19,180 |
| Royal Naval Reserve | — | 13,510 | 23,453 |
| Royal Naval Reserve (Trawler Section) | — | 3,130 | 37,145 |
| Royal Naval Volunteer Reserve | — | 2,345 | 50,218 |
| Colonial Reserves | — | — | 2,000 |
| Total | 146,047* | 201,017* | 407,316† |

* R.N.A.S. included.

† R.N. Division included, but M.M. Reserve excluded.

APPENDIX J

NUMBER OF OFFICERS AND MEN OF ALL RANKS THAT SERVED DURING
THE WAR.

The numbers include Officers and Men of the Royal Navy and Royal Marines,
Retired Officers, Pensioners, Coast-Guard, Reserves, Royal Naval Air
Service, and Royal Naval Division and Mercantile Marine Reserve.

Personnel of the Dominion Navies, etc., is not included.

| | Officers | Men | Total |
|--------------------------|----------|---------|---------|
| Borne on 15th July, 1914 | 9,986 | 136,061 | 146,047 |
| Reserves mobilised | 3,560 | 59,734 | 63,294 |
| Entered | 41,831 | 389,065 | 430,896 |
| Total | 55,377 | 584,860 | 640,237 |

In addition, 11,323 served in the Coast Watching Service, Women's Royal
Naval Service, as Nursing Sisters and V.A.D.'s.

APPENDIX K

I.—STATEMENT OF CASUALTIES SUFFERED BY OFFICERS AND MEN OF THE ROYAL NAVY AND RESERVES (INCLUDING MERCANTILE MARINE RESERVE) WHILST SERVING IN HIS MAJESTY'S SHIPS AND MERCHANT SHIPS, AND OF OFFICERS AND MEN OF THE ROYAL NAVAL DIVISION, BETWEEN 4TH AUGUST, 1914 AND 11TH NOVEMBER, 1918.

(a) ROYAL NAVY

The figures include :

- (1) Officers and men of Royal Navy, Royal Marines (afloat and ashore), Royal Fleet Reserve, Royal Naval Reserve, Royal Naval Reserve (trawler section), Royal Naval Volunteer Reserve and Colonial Reserves.
- (2) Officers and men of the Royal Naval Air Service, up to 31st March, 1918 (the date of transfer to the Royal Air Force).
- (3) Members of the Mercantile Marine Reserve.
- (4) Civilian canteen employees, men serving in Royal Fleet Auxiliaries, etc.

The following are excluded :

- (1) Officers and men of the Royal Naval Division.
- (2) Officers and men of the British Mercantile Marine.

| | Officers | Men | Total |
|---|----------|--------|--------|
| Killed in action (including died of wounds) | 2,074 | 20,737 | 22,811 |
| Died from all other causes | 400 | 11,443 | 11,843 |
| Wounded in action | 549 | 3,961 | 4,510 |
| Injured, not in action | 256 | 392 | 648 |
| Still missing | nil | nil | nil |
| | 3,279 | 36,533 | 39,812 |

The number of Officers and men who were made prisoners of war, or who were interned during the same period were :—

| | Officers | Men | Total |
|------------------|----------|-----|-------|
| Prisoners of war | 211 | 824 | 1,035 |
| Interned | 51 | 170 | 221 |
| | 262 | 994 | 1,256 |

Officers and men presumed dead are included in the first Table.

Prisoners of war, and interned Officers and men who died whilst in captivity or internment are included in both of the preceding Tables. The rest of the Officers and men in the second Table were repatriated, released, or escaped.

(b) ROYAL NAVAL DIVISION.

The casualties suffered by the Royal Naval Division during the same period were :—

| | Officers | Men | Total |
|---|----------|--------|--------|
| Killed in action (including died of wounds) | 444 | 7,480 | 7,924 |
| Died from all other causes | 19 | 647 | 666 |
| Wounded | 777 | 19,388 | 20,165 |
| Still missing | nil | nil | nil |
| | 1,240 | 27,515 | 28,755 |

Officers and men reported missing, since assumed dead, are included in the above figures under "Killed in Action."

The number of officers and men of the Royal Naval Division made prisoners of war or interned were :—

| | | | | | | | |
|----------|---|---|---|---|---|---|--------------|
| Officers | . | . | . | . | . | . | 96 |
| Men | . | . | . | . | . | . | 4,370 |
| Total | . | . | . | . | . | . | <u>4,466</u> |

With the exception of four men, since assumed dead, all the above prisoners of war, etc., were repatriated.

II.—NUMBER OF LIVES LOST IN BRITISH MERCHANT AND FISHING VESSELS BETWEEN 4TH AUGUST, 1914 AND 11TH NOVEMBER, 1918.

| | | | | |
|-----------------------------|---|---|---|---------------|
| In British Merchant Vessels | . | . | . | 14,879 |
| In British Fishing Vessels | . | . | . | 434 |
| Total | . | . | . | <u>15,313</u> |

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Abbreviations :

A.B.S. = Armed Boarding Steamer.
A.M.C. = Armed Merchant Cruiser.
B. = Battleship.
B.Cr. = Battle Cruiser.
C.M.B. = Coastal Motor Boat.
Cr. = Cruiser.
G.B. = Gunboat.
L.Cr. = Light Cruiser.
M/L = Minelayer.

Mon. = Monitor.
M/S. = Minesweeper.
S/M = Submarine.
S.N.O. = Senior Naval Officer.
Sq. = Squadron.
S.S. = Steamship.
T.B. = Torpedo Boat.
T.B.D. = Destroyer.

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